SONY
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LMD-4250W
LMD-2451W
LMD-2051W
LMD-1751W
LMD-2341W
LMD-1541W
LMD-940W
LMD-1530W
LMD-2110W
Professional LCD Monitor

PVM-740
Professional OLED Monitor

LMD-4251TD
LMD-2451TD
Professional 3D LCD Monitor

LUMA
Professional LCD Monitor

3D world
Created by Sony

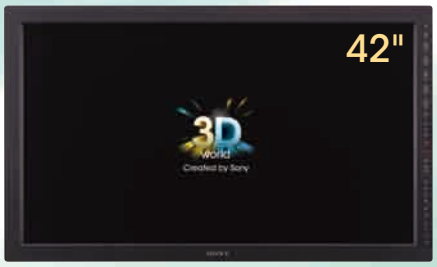
Full Range of Professional Monitors From Sony - OLED*1, 3D, 2D High-grade Professional and Professional range.

Sony has offered professional monitors in a variety of types and sizes, suitable for applications in the studio and in the field.

Building on a long history as a leading supplier of high-definition technology products, in addition to the PVM-740 professional OLED*1 portable monitor, Sony continues to enhance its professional monitors by introducing four new models in the LUMA™ Series: the LMD-4251TD*2 and LMD-2451TD*3 3D professional LCD monitors, the LMD-2051W*4 LUMA Series high-grade professional monitor, and the LMD-2110W*5 professional HD monitor.

This broad and powerful monitor lineup including the OLED portable monitor continues to meet a variety of application needs, from broadcast and post-production, to surveillance and demanding semi-professional applications.

*1 Organic light-emitting diode (OLED).
*2 42-inch (1067-mm), *3 24-inch (613.2-mm), *4 20-inch (511.1-mm), *5 21.5-inch (547-mm) viewable areas, measured diagonally.



LMD-4251TD

PVM-740

Super Top Emission OLED panel

LMD-2451TD

BKM-30G

OLED* Portable Monitor

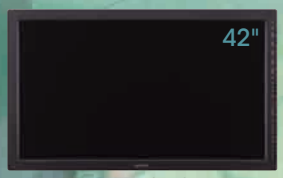
- Super Top Emission™ OLED panel delivering deep black and high contrast
- Micro-cavity structure with RGB colour filters enhances color purity and improves light-emitting efficiency
- ChromaTRU™ and 10-bit panel drive engine technologies
- Robust and compact aluminum-diecast body
- Mounting and portable flexibility with detachable stand and camera pedestal holes
- Variety of optional accessories including EIA 19" standard rack-mounting bracket and ENG kit
- Camera focus function
- Marker settings
- Waveform and audio level meter display
- Convenient control panel
- Parallel and serial remote control connectors

* Organic light-emitting diode (OLED).

LUMA High-grade Professional 3D Monitors

- Micro-polarizer 3D filter
- Lightweight circular-polarizer 3D glasses
- Variety of 3D signal inputs: 3G-SDI level-B*1, dual-stream HD-SDI*1, HD-SDI line interleave (line-by-line) and side-by-side*1, HD-SDI frame sequential and field sequential*1, and DVI line interleave (line-by-line)
- Convenient 3D production features which support 3D settings and adjustments including: Flip H, Disparity simulation, Checker board, L/R switch, and Horopter check*2
- Both monitors can be used as 2D monitors, and their features are compatible with those of current LMD-51W Series monitors
- Wide viewing angle with an IPS panel
- ChromaTRU colour matching technology

*1 An optional BKM-250TG 3G-SDI input adaptor is required.
*2 These functions work when 3G-SDI (level-B) or dual-stream HD-SDI signals are input via the optional BKM-250TG input adaptor.



LMD-4250W

LMD-2451W

LMD-2051W

LMD-1751W

LUMA High-grade Professional 2D Monitors

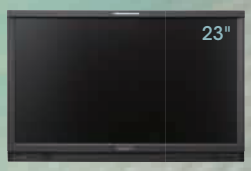
- Wide viewing angle with an IPS panel*1
- ChromaTRU colour matching technology
- 10-bit signal processing
- Auto white balance calibration function for colour consistency*1
- Multi-format signal inputs up to 3G-SDI *1*2
- Sophisticated I/P conversion with minimum delay mode (LINE DOUBLER)
- Equipped with two slots for flexible optional SD/HD input boards
- Waveform monitor and audio level meter, and time code display*1*3

*1 LMD-2451W, LMD-2051W, and LMD-1751W only.
*2 The optional BKM-250TG 3G-SDI input adaptor is required.
*3 The LMD-2451W, LMD-2051W, and LMD-1751W support an on-screen audio level meter when receiving SDI-embedded audio signals.

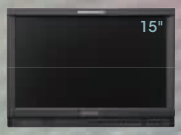
LMD-940W

LUMA High-grade Professional Portable Monitor

- Wide viewing angle with an IPS panel
- ChromaTRU colour matching technology
- 10-bit signal processing
- Auto white balance calibration function for colour consistency
- Multi-format signal inputs up to 3G-SDI
- Sophisticated I/P conversion with minimum delay mode (LINE DOUBLER)
- Robust and compact aluminum-diecast body
- Mounting and portable flexibility with detachable stand and camera pedestal holes
- Variety of optional accessories including EIA 19" standard rack-mounting bracket and ENG kit
- Camera focus function
- Marker settings
- Waveform and audio level meter display
- Convenient control panel
- Parallel and serial remote control connectors



LMD-2341W



LMD-1541W

LMD High-grade Professional 2D Slim Bezel Monitors

- High-brightness LCD panel with wide viewing angle
  The 23-inch full-HD (LMD-2341W, 1920 x 1080 pixels) and 15.3-inch (LMD-1541W, 1280 x 768 pixels) high-performance LCD panels reproduce lifelike images and stunning colors
- Space-saving compact design with a lightweight aluminum slim bezel and body
  The LMD-2341W and LMD-1541W are designed specially to suit monitor-wall installation in studios and OB vans. The LMD-1541W is an ideal replacement for 14-inch CRT monitors
- ChromaTRU™ color matching technology
  ChromaTRU technology avoids color mismatching between monitors, and makes the LMD-2341W and LMD-1541W ideal for efficient use in multi-monitor systems
- In-monitor Display (IMD) function for source monitoring
  With an external remote function via Ethernet, image source names and tally information can be displayed on screen*1
- Built-in multi-signal input signal interfaces
  Multiple interface connectors are provided as standard: SDI (3G/HD/SD-SDI) (two inputs/one output), analog composite, and HDMI input

*1 The LMD-2341W and LMD-1541W support the TSL system protocol.

LMD-1530W

LMD-2110W

LUMA Professional Monitors

- High-purity colour filters
- Excellent brightness and contrast
- 109% peak white and 10-bit signal processing
- Picture delay minimum mode (LINE DOUBLER)
- Versatile input connectors including standard HDMI input, and SD-SDI input with the optional BKM-320D input adaptor
- Marker setting
- Selectable scan size for video input and aspect ratio
- Three-colour tally
- Parallel remote control
- Monaural audio monitoring
- Mountable in a 19" EIA standard rack
- VESA mounting

OLED Portable Monitor

PVM-740

*Simulated image

The PVM-740 is a new type of 7.4-inch* high-resolution (960 x 540 pixel) portable monitor which incorporates an organic light-emitting diode (OLED) display panel with Sony's unique Super Top Emission technology.

This new OLED portable monitor – PVM-740 offers outstanding high-contrast images – deep black, high-peak brightness, high-purity deep colour, and blur-free quick response.

A combination of Sony's 10-bit panel driver and ChromaTRU technologies work effectively to emulate the colours and gammas of CRT monitors, and to support broadcast standards (SMPTE-C, EBU, and ITU-R BT.709).

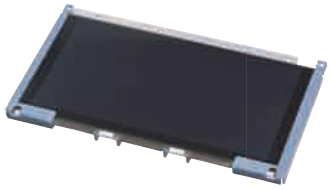
* 188 mm viewable area, measured diagonally.

Superb Picture Performance

Deep Black and High-contrast

A feature of the OLED display panel is that it does not emit light when no electric current is applied or when a black signal is received.

In this way, the deep black of a night scene can be accurately displayed and the black portion of an image is not raised even in a low-illumination edit suite. As the black colour is deep, peak brightness becomes higher and can brilliantly express sparkling town lights and stars in the night sky.



Sony's OLED panel

High-purity Deep Colour Reproduction

Colour purity is dramatically enhanced and stunning deep colour can be reproduced. A combination of Sony's microcavity structure and the RGB colour filters is also effective in reducing ambient light reflection, and consequently deep colour reproduction can be achieved without colour degradation, particularly in bright environments.

*Simulated image

Blur-free Quick Response to Fast Motion

Because the OLED electroluminescent layer is a solid type of layer, it inherently responds to any electrical current input and emits light immediately.

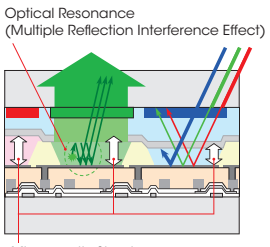
By this mechanism, excellent quick response characteristics can be achieved in fast-motion images.

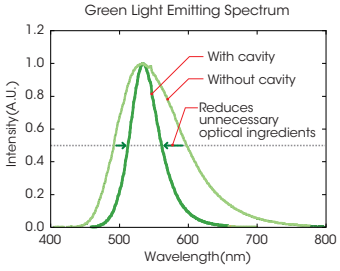
This efficient blur-free, fast response benefits a variety of applications and scenes, e.g., in sports broadcasting, monitoring of camera panning, and text scrolling.

Sony's Super Top Emission OLED Technology

The Super Top Emission takes light-emission from the other side of the TFT layer, and this structure offers more efficient light emission than a bottom emission structure, and consequently achieves higher brightness.

This structure incorporates micro-cavity structure with colour filters. The micro-cavity structure uses an optical resonance effect to enhance colour purity and improve light-emission efficiency. In addition, the colour filter of each RGB also enhances the colour purity of emitted light, and reduces ambient light reflection.





Multi-format Signal Inputs – up to 3G-SDI

The PVM-740 incorporates various video interfaces as standard such as composite, 3G/HD/SD-SDI interface, and HDMI interface.

Other Features

- Robust, lightweight, aluminum-diecast body
- Detachable AR-coated protection panel
- Screw holes for camera pedestal
- Optional ENG kit VF-510
- Camera focus function
- Waveform monitor and audio level meter display
- Flip function to flip a picture without frame delay, horizontally, vertically, or horizontally and vertically
- Power-saving mode
- Silent mode
- Control panel design (assignable up to seven functions)
- External remote control function

3D Monitors

It's time for 3D

In recent years, digital technologies for stereoscopic three dimensional (3D) cinema production and live shooting have progressed rapidly, and the market for 3D entertainment is growing exponentially.

In response to these current and future requirements, Sony offers two types of high-performance professional 3D LCD monitor: the LMD-4251TD (42-inch*1) and the LMD-2451TD (24-inch*2). *3

*1 1067-mm, viewing area measured diagonally.
*2 613-mm, viewing area measured diagonally.
*3 Two sets of BKM-30G circular-polarizer 3D glasses are supplied with the both monitors as a standard accessory.

LMD-4251TD

LMD-2451TD

BKM-30G
Circular-polarizer 3D glasses

Circular-polarizer 3D System

The LMD-4251TD and LMD-2451TD incorporate a micro-polarizer filter attached to the LCD panel, and are supplied with circular-polarizer 3D glasses. Wearing these lightweight* 3D glasses, users experience smooth, uninterrupted viewing of multiple monitors and flicker-free 3D images. This image quality helps users to engage in 3D production operations with minimal stress.

* Approx. 18 g.

High-performance Picture Quality

The LMD-4251TD and LMD-2451TD incorporate a highly acclaimed Sony-unique ChromaTRU colour matching technology, and a full-HD (1920 x 1080) resolution professional LCD panel* with an excellent wide viewing angle – developed without compromise because user convenience has been given top priority.

* The LMD-2451TD incorporates a WUXGA (1920 x 1200) resolution panel.

Fully Compatible with 2D Monitors

These models are equipped with consistent quality, functionality, and operability – essential for professional monitors. Both 3D monitors can be used as 2D monitors, and their features are fully compatible with those of current LMD-51W Series monitors.*

* The LMD-4251TD does not support 2-channel audio level meter and waveform monitor display.

Multiple 3D Input Signal Formats and Interfaces

The LMD-4251TD and LMD-2451TD accept a variety of 3D signal formats including 3G-SDI, Dual-stream HD-SDI, HD-SDI Side-by-side, HD-SDI Line interleave (line-by-line), HD-SDI Frame sequential, HD-SDI Field sequential using an optional BKM-250TG 3G-SDI input adaptor, and DVI Line interleave (line-by-line). This input flexibility enables versatile 3D production both in the studio and the field.

Type of Input Signals	Signal Formats	Required Input Adaptor
3G-SDI (Level B)	1080/50i, 60i*1, 24p, 25p, 30p*1, 24PsF*1, 25PsF, 720/50p*2, 60p*1 *2	**BKM-250TG***3 (optional)
Dual-stream HD-SDI	1080/50i, 60i*1, 24p, 25p, 30p*1, 24PsF*1, 25PsF, 720/50p*2, 60p*1 *2	
HD-SDI Side-by-side	1080/50i, 60i*1, 24p, 25p, 30p*1, 24PsF*1, 25PsF, 720/50p*2, 60p*1 *2	
HD-SDI Line interleave (line-by-line)	1080/24p, 25p, 30p*1, 50p, 60p, 24PsF*1, 25PsF, 720/50p*2, 60p*1 *2	
HD-SDI Frame sequential	1080/24p, 25p, 30p*1	
HD-SDI Field sequential	1080/24PsF*1, 25PsF	
DVI Line interleave (line-by-line)	1920 x 1080/50Hz, 60Hz	–

*1 Frame rates are also compatible with 1/1.001.
*2 Displayed on screen pixel-to-pixel.
*3 The BKM-250TG 3G-SDI input adaptor serial number 7100001 or later.

Unique Lightweight Circular-polarizer 3D Glasses

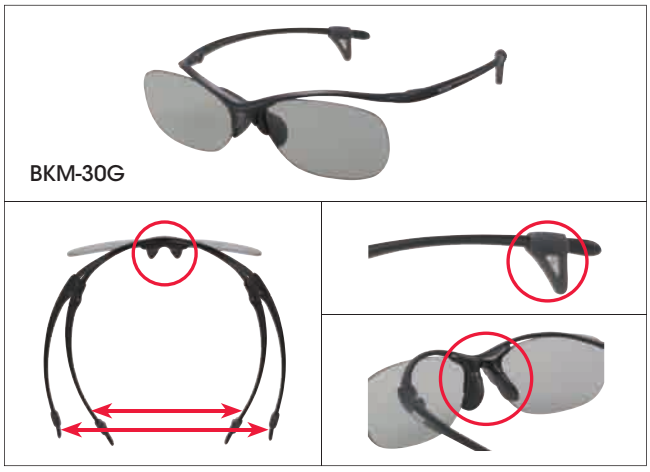
BKM-30G circular-polarizer glasses are designed for the 3D production operator's convenience, and optimised for LMD-4251TD and LMD-2451TD 3D monitors.

These 3D glasses are extremely lightweight – just 18 g approximately – and are comfortable to wear. The soft frame and center-support structure are designed to fit any size and shape of head and face, so the wearer experiences minimal stress even during continuous production tasks.

In addition, the center-support structure does not put the lenses under stress, and so there is no lens distortion. These polycarbonate lenses withstand temperature changes and shock. The ear stems maintain a comfortable and secure grip, preventing the glasses from slipping, and the nose pads also provide good grip even when sweat could cause slippage.

BKM-30G circular-polarizer glasses block approximately 99% of the sun's ultraviolet rays.*

* BKM-30G circular-polarizer glasses cannot be used as sunglasses. The blocked spectral range is 280 nm to 380 nm.



Stereoscopic Three-dimensional (3D) Display Mechanism

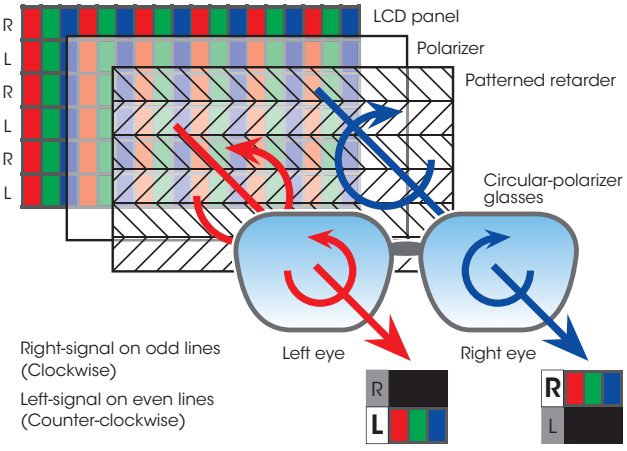
A human estimates the depth of an observed object using elements (depth cues) such as focus, perspective, interposition (occlusion), relative size, and other cues. The mechanism for displaying a 3D stereoscopic image is vergence and stereopsis.

3D Circular-polarizer System

The LMD-4251TD and LMD-2451TD adopt a 3D micro-polarizer filter attached to the LCD panel, and are supplied with circular-polarizer glasses. In this system, the right and left signals are sorted into odd lines and even lines respectively. The right and left images delivered from the LCD panel are circular-polarized in opposite rotations through the micro-polarizer filter and the patterned retarder. Each right and left image can then be viewed through a corresponding right and left circular-polarizer filter.

Benefits of the 3D Circular-polarizer System

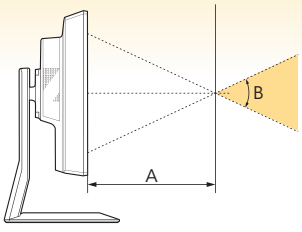
The circular-polarizer system incorporated in the LMD-4251TD and LMD-2451TD delivers many benefits to professional 3D production operators: the circular-polarizer 3D glasses do not require synchronisation with the monitor system – even if it is a multi-monitor system which is typical of professional environments. Users experience smooth, uninterrupted viewing of multiple monitors, and flicker-free viewing even under a fluorescent light. Added to this, there is no need for batteries in the glasses, which are therefore very lightweight, and cross-talk (interference between right and left lenses) rarely occurs even when the wearer inclines their head.



Principle of 3D Circular-polarizer

Vertical Viewing Angle in 3D Mode

	A (typical)	B (typical)
LMD-4251TD	600 mm	40°
LMD-2451TD	300 mm	50°



//Variety of 3D/2D Display Functions

There are a variety of convenient 3D production features*: a Flip H (horizontally flipping), Disparity simulation, Checker board display, L/R switch, and Horopter check – ideal for high-quality creative 3D production. These capabilities are assignable to function keys on the front panel of the LMD-4251TD and LMD-2451TD, and can also be assigned to an external remote control unit. This is very convenient for users who frequently switch between 2D and 3D mode during 3D production work.

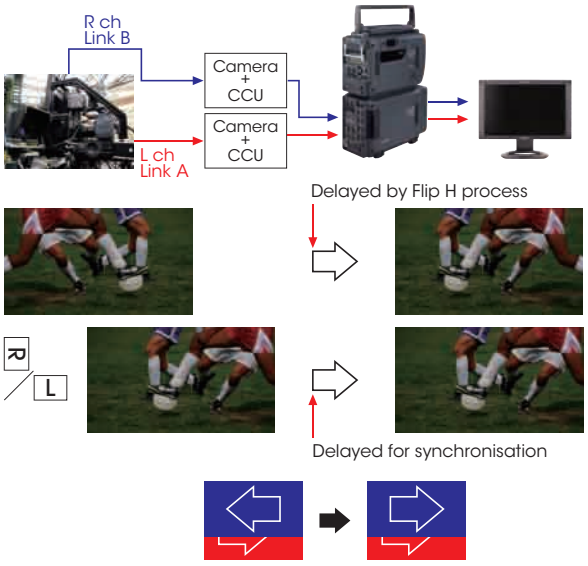
* These functions work when the optional BKM-250TG 3G-SDI input adaptor is installed, and either 3G-SDI (level-B) or dual-stream HD-SDI signals are input via the BKM-250TG input adaptor.

Flip H [3D mode]

When a half-mirror type of rig is used, either the left or right signal may be reversed horizontally. The Flip H function turns the reversed image to the normal view. This is helpful because the user can refer directly to the rig camera, achieving a simple and cost-saving system.

For example, a rig camera system using the LMD-2451TD 3D monitor can be taken up a mountain without also having to carry external equipment for reversing the rig camera image.

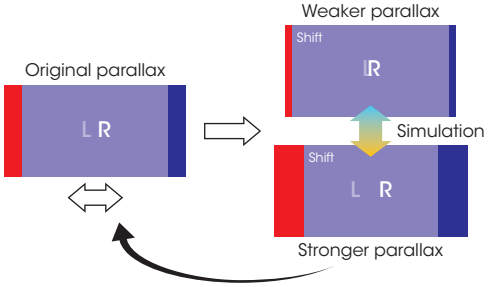
* A delay in signal processing occurs, and both the left and right signals synchronise to the delayed signal.



Disparity Simulation [3D mode]

Either the left or right signal phase (or both phases) of a 3D image can be shifted horizontally. In this way, users can simulate the amount of 3D image parallax, and can judge whether the camera rig should be adjusted on location or whether it would be better to adjust the parallax later during the post-production process.

* The simulated image cannot be output to other equipment.



After Disparity simulation, the screen images return to their original parallax.
Both sides of the screen are masked with gray.

Horopter Check [3D mode]

This function helps users to perceive the subtle difference of depth between different objects placed on the 3D screen surface. Either left or right 3D image signals (or both) are displayed in a selected single colour: black, red, blue, or monotone.

For example, when a user sets the left image in monotone and the right image in red:

- If red parallax is seen on the left side, an object is placed in front
- If red parallax is seen on the right side, an object is placed behind.

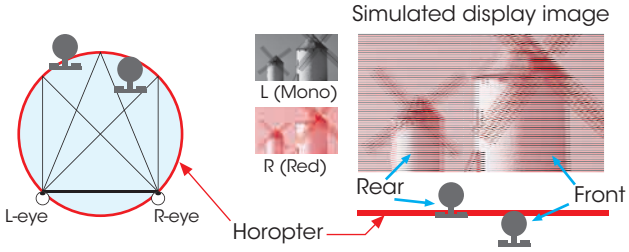
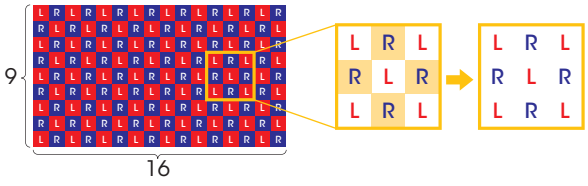


Image overview when viewed from above

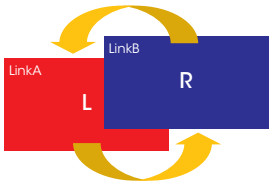
Checker Board [2D mode]

Left and right input signals are displayed in a grid pattern on screen – divided into 9 blocks vertically and 16 blocks horizontally. By comparing adjacent images, users can recognise a difference in brightness and colour setting of the left and right images, and thus easily adjust the camera's white balance and iris settings.



L/R Switch [2D mode]

Left and right signals can be swapped in a moment without inserting black frames, simply by manually pushing a function key.* This instant-swap capability enables users to compare whole images and check for any sense of incongruity or for unnatural images.



Payload ID Display

Channel-assign information about the payload ID data of input signals is displayed on the menu screen. This tells users how the left and right channels are assigned in the menu.

High-grade Professional Series [Multi-format]

LUMA high-grade Professional Series monitors, including LMD-4251TD and LMD-2451TD Professional 3D monitors, incorporate a wide viewing angle LCD panel, high-purity colour filters, sophisticated 10-bit signal processing, and Sony's unique ChromaTRU colour matching technology. With these qualities, they deliver precise images and accurate colour reproduction for broadcast and professional video monitoring. Added to this, a newly supported white balance calibration function*1 allows quick and simple monitor adjustment and matching, and offers stable colour reproduction. And these LUMA high-grade professional monitors*2 incorporate a 3G-SDI capability which means they can accept Y/Cb/Cr 4:2:2 1080/50p and 60p video signals using only a single SDI cable.

*1 The LMD-4250W does not support this function. The LMD-940W supports this function from version 1.05 or later.
This works with the combination of a PC and a commercially available calibration tool (X-Rite i1 Pro).
*2 The LMD-4250W is excluded.

Model Types

	LMD-4251TD LMD-4250W	LMD-2451TD LMD-2451W	LMD-2051W	LMD-1751W	LMD-940W
Panel size (diagonal)	42-inch	24-inch	20-inch	17-inch	9-inch
Resolution	1920 x 1080	1920 x 1200	1680 x 1050	1280 x 768	800 x 480
Aspect ratio	16:9	16:10	16:10	15:9	15:9
Desktop stand	N/A	Supplied	Supplied	Optional SU-561	Supplied
EIA 19" rack mount	N/A	N/A	Optional MB-529	Optional MB-530	Optional MB-531
VESA mounting (mm)	400 x 400	100 x 100	100 x 100	100 x 100, 75 x 75	N/A

LMD-4251TD
LMD-4250W

LMD-2451TD
LMD-2451W

LMD-2051W

LMD-1751W

LMD-940W

Extremely Wide Viewing Angle

LUMA high-grade professional monitors offer stable images when viewed from various angles: both horizontally and vertically, with virtually no reduction in picture contrast, colour saturation, or hue shift. This allows precise images to be clearly viewed from various positions and angles – a critical requirement in professional video monitoring – and makes these monitors suitable for group viewing.

* Simulated image

Superb Picture Performance

High Purity Colour Filters

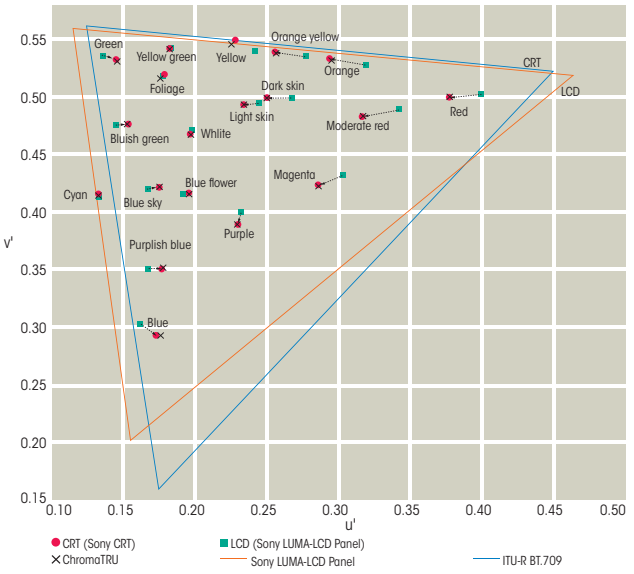
LUMA high-grade Professional monitors use precisely manufactured RGB colour filters, allowing the reproduction of colours with stunning depth and saturation to create highly natural images.

Accurate Gamma and Stable White Balance – ChromaTRU Colour Processing

For an extra level of colour-reproduction accuracy, every LCD panel used in LUMA high-grade Professional monitors is precisely colour calibrated at the factory, providing characteristics consistent with those of CRT displays.

The colourimetry of an LCD display, by nature, can exhibit inaccurate R, G, B colour coordinates and unbalanced R, G, B gamma curves, which can make precise colour matching between multiple monitors a challenge. These are also the primary reasons why LCD colour tone can differ slightly from CRT tone. LUMA high-grade monitors solve this problem by precisely calibrating each LCD panel's light output so that the R, G, B colour coordinates are virtually the same as those of a CRT monitor. A second calibration is further applied so that white balance is maintained at a consistent colour temperature throughout all gray scale levels. The result of these precise calibrations is colour reproduction reminiscent of Sony's CRT displays.

CIE colour coordinates



In this diagram, the raw light output of a LUMA LCD panel is compared with that of a CRT from Sony using a CIE u' v' chart, which enables evaluation of light output from display devices. The triangular areas show their different colour reproduction capabilities (Colour Space). The green and red dots indicate the colour of light output from the LUMA LCD panel and from the CRT for certain RGB input signals. Note that the same light colour is not obtained from the same video input. The ChromaTRU process, on the other hand, reproduces consistent light output extremely close to that of a CRT.

White Balance Calibration Function

LUMA high-grade monitors are adjusted at the factory to achieve optimised colour, brightness, and gamma prior to shipment. LCD monitor performance, however, typically changes over time and requires regular recalibration to maintain its original performance.

High-grade professional monitors*1 employ a software-based white balance calibration function, which is called LMD_AutoWhiteBalance. Combined with a PC and commercially available calibration tool*2, this function enables simple adjustment of the monitor's white balance.

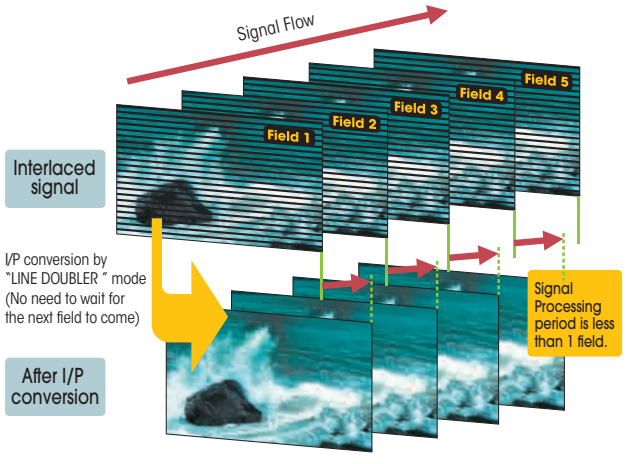
*1 The LMD-940W from version 1.05 or later. The LMD-4250W is excluded.
*2 The X-Rite Eye-one (i1) Pro Series.

LMD-1751W with white balance probe (X-Rite i1 Pro)

I/P Mode Selection

LUMA high-grade professional monitors provide three I/P modes so that users can select the most suitable mode for each purpose:

- **INTER-FIELD:** This mode interpolates images between fields. This is used for picture quality precedence (e.g., to reduce the jagged effect on moving pictures).
- **FIELD MERGE:** This mode combines lines alternately in odd and even fields, regardless of picture movements. This is used for PsF (Progressive Segmented Frame) processing and still image monitoring.
- **LINE DOUBLER:** This mode interpolates by repeating each line. This is used for editing and monitoring fast-moving images, and checking line flicker. The minimum processing time is less than one field (0.5 frames).



Input Versatility

Multi-format Signal Support – up to 3G-SDI Input
LUMA high-grade professional monitors accept almost any SD or HD video format, both analog and digital.

3G-SDI*

Most LUMA high-grade professional monitors, including the LMD-940W, can accept 3G-SDI input. Sony's 3G-SDI interface is compliant with the SMPTE 425 standard, transmitting up to 4:2:2/10-bit 1080/50p and 1080/60p video data using one SDI cable. When an upgrade to these 1080/p systems is required, this single-link 3G-SDI system is an ideal, future-proof solution.

* The LMD-4251TD, LMD-2451TD, LMD-2451W, LMD-2051W, and LMD-1751W require an optional BKM-250TG 3G-SDI input adaptor. The LMD-4250W does not support the 3G-SDI interface. No models support a dual-link HD-SDI interface.

Standard and Optional* Signal Interfaces

In addition to the standard input interfaces of analog composite, component and RGB, and Y/C (S-video), LUMA high-grade professional monitors are equipped with two slots for optional input adaptors of any combination for SD or HD video inputs. Users can expand the input capability according to their budget and needs.

* The LMD-940W does not support signal interface options.

Computer Signal Interfaces*1

LUMA high-grade professional monitors accept various types of analog and digital computer signal via standard HD-15 and DVI-D*2 interfaces, respectively. With their high-performance scan converters, these monitors can display PC signals from VGA to WUXGA.*3

*1 The LMD-940W does not support computer signals.
*2 1920 x 1080 images are down-converted for display on the LMD-2051W and LMD-1751W.
*3 WUXGA images are accepted by the LMD-2451TD and LMD-2451W only. Images ranging from WSXGA+ to 1920 x 1080 are down-converted for display on the LMD-2051W and LMD-1751W.

LMD-940W Standard Interfaces for Mobility

To provide mobility, the LMD-940W incorporates various video interfaces as standard, including a composite, SDI interface* for SD-SDI, HD-SDI, and 3G-SDI, and an HDMI interface.

* SD-SDI, HD-SDI, and 3G-SDI inputs share the same BNC connector, and these signals are automatically detected.

LMD-2451W with the BKM-250TG 3G-SDI board

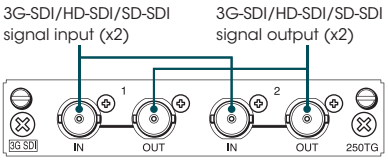
Input signals / Input adaptors

Video Signal Formats	Input signals				LMD-4251TD/LMD-2451TD/ LMD-4250W/LMD-2451W/LMD-2051W/LMD1751W					LMD-940W		
	Total Line	Active Line	Aspect Ratio	Frame Rate*1	Composite Y/C	RGB Component	SDI 4:2:2	HD-SDI SD-SDI	3G/HD/ SD-SDI*3	Composite	3G/HD/ SD-SDI	HDMI
					Standard					Standard		
					Options							
					BKM-227W	BKM-229X	BKM-220D	BKM-243HS BKM-244CC	BKM-250TG*3			
575/50i (PAL)	625	575	16:9 & 4:3	25	O	O	O	O	O	O	O	O
480/60i (NTSC)*1	525	483	16:9 & 4:3	30	O	O	O	O	O	O	O	O
576/50p	625	576	16:9 & 4:3	50	N.A.	O	N.A.	N.A.	N.A.	N.A.	N.A.	O
480/60p	525	483	16:9 & 4:3	60	N.A.	O	N.A.	N.A.	N.A.	N.A.	N.A.	O*1
640 x 480/60p*1	525	480	4:3	60	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	O
1080/24PsF*1	1125	1080	16:9	24	N.A.	O*2	N.A.	O	O	N.A.	O	N.A.
1080/25PsF	1125	1080	16:9	25	N.A.	O*2	N.A.	O	O	N.A.	O	N.A.
1080/24p*1	1125	1080	16:9	24	N.A.	O*2	N.A.	O	O	N.A.	O	O
1080/25p	1125	1080	16:9	25	N.A.	O*2	N.A.	O	O	N.A.	O	O
1080/30p*1	1125	1080	16:9	30	N.A.	O*2	N.A.	O	O	N.A.	O	O
1080/50i	1125	1080	16:9	25	N.A.	O	N.A.	O	O	N.A.	O	O
1080/60i*1	1125	1080	16:9	30	N.A.	O	N.A.	O	O	N.A.	O	O
720/50p	750	720	16:9	50	N.A.	O*2	N.A.	O	O	N.A.	O	O
720/60p*1	750	720	16:9	60	N.A.	O	N.A.	O	O	N.A.	O	O
1080/50p	1125	1080	16:9	50	N.A.	N.A.	N.A.	N.A.	O	N.A.	O	O
1080/60p*1	1125	1080	16:9	60	N.A.	N.A.	N.A.	N.A.	O	N.A.	O	O

*1 Compatible with 1/1.001 *2 For component input only *3 Excluding LMD-4250W

Connector Panel and Optional Input Adaptors

BKM-250TG

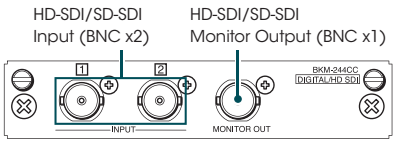


3G/HD/SD-SDI Input Adaptor

- 3G/HD/SD-SDI signal input (x2)
- 3G/HD/SD-SDI monitor output (x2)
- Power consumption: Approx. 4 W

**3G-SDI, HD-SDI and SD-SDI signals are detected automatically.*

BKM-244CC

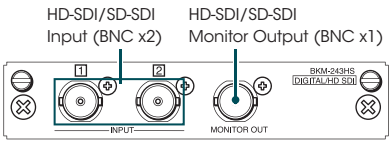


HD/SD-SDI Closed Caption Adaptor

- HD-SDI/SD-SDI signal input (x2)
- HD-SDI/SD-SDI monitor output (x1)
- Power consumption: 3.8 W

**Both EIA 608 and EIA 708 Closed caption decoders are equipped.*
**HD-SDI and SD-SDI signals are detected automatically.*

BKM-243HS

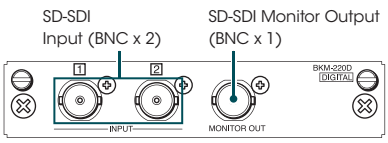


HD-SDI/SD-SDI Input Adaptor

- HD-SDI/SD-SDI signal input (x2)
- HD-SDI/SD-SDI monitor output (x1)
- Power consumption: 2.0 W

**HD-SDI and SD-SDI signals are detected automatically.*

BKM-220D



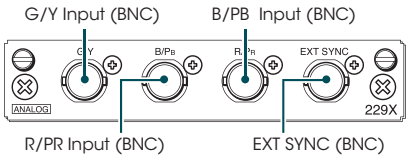
SD-SDI 4:2:2 Input Adaptor

- SD-SDI signal input (x2)
- SD-SDI monitor output (x1)
- Power consumption: 1.5 W

**Embedded audio is supported.*

LMD-4251TD/
LMD-4250W
Connector Panel
and Option Slots

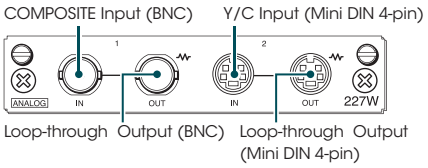
BKM-229X



Analog Component Adaptor

- RGB/ Y/PB/PR input connector (x1)
- EXT SYNC (x1)
- Power consumption: 4.0 W

BKM-227W



NTSC/PAL Input Adaptor

- Composite input/output (x1)
- Y/C input/output (x1)
- Power consumption: 1.8 W

LMD-2451TD/LMD-2451W/LMD-2051W Connector Panel

LMD-940W Connector Panel

LMD-2451TD/LMD-2451W/LMD-2051W Option Slots

LMD-1751W Connector Panel and Option Slots

Preset Computer Input Frequencies

LUMA high-grade professional monitors* are factory preset to accept the following typical computer input signal frequencies:

* The LMD-940W monitor is not equipped with an HD15 interface.

HD15 Input Signal Format

Resolution	H Total	H addr.	V Total	V Addr.	Dot Clock [MHz]	fH [kHz]	fV [Hz]	Sync Polarity		LMD-4251TD LMD-4250W	LMD-2451TD LMD-2451W	LMD-2051W	LMD-1751W
								Horizontal	Vertical				
640x480@60Hz*	800	640	525	480	25.175	31.469	59.940	N	N	O	O	O	O
640x480@60Hz	800	640	494	480	23.625	29.531	59.780	P	N	O	O	O	O
720x400@70Hz*2	900	720	449	400	28.322	31.469	70.087	N	P	O	O	O	O
800x600@56Hz*	1024	800	625	600	36.000	35.156	56.250	P	P	O	O	O	O
800x600@60Hz*	1056	800	628	600	40.000	37.879	60.317	P	P	O	O	O	O
800x600@60Hz	960	800	618	600	35.500	36.979	59.837	P	N	O	O	O	O
800x600@72Hz*	1040	800	666	600	50.000	48.077	72.188	P	P	O	O	O	O
800x600@75Hz*	1056	800	625	600	49.500	46.875	75.000	P	P	O	O	O	O
800x600@85Hz*	1048	800	631	600	56.250	53.674	85.061	P	P	O	O	O	O
1024x768@60Hz*	1344	1024	806	768	65.000	48.363	60.004	N	N	O	O	O	O
1024x768@60Hz	1184	1024	790	768	56.000	47.297	59.870	P	N	O	O	O	O
1024x768@70Hz*	1328	1024	806	768	75.000	56.476	70.069	N	N	O	O	O	O
1024x768@75Hz*	1312	1024	800	768	78.750	60.023	75.029	P	P	O	O	O	O
1024x768@85Hz*	1376	1024	808	768	94.500	68.677	84.997	P	P	O	O	O	O
1152x864@75Hz*	1600	1152	900	864	108.000	67.500	75.000	P	P	O	O	O	
1280x768@50Hz	1648	1280	791	768	65.125	39.518	49.959	N	P	O	O	O	O
1280x768@60Hz	1680	1280	795	768	80.125	47.693	59.992	N	P	O	O	O	O
1280x768@60Hz	1440	1280	790	768	68.250	47.396	59.995	P	N	O	O	O	O
1280x768@75Hz	1712	1280	802	768	102.875	60.091	74.926	N	P	O	O	O	O
1280x800@60Hz*1					68.900	48.935	59.969	N	N	O	O	O	O
1280x960@60Hz*	1800	1280	1000	960	108.000	60.000	60.000	P	P	O	O	O	O
1280x960@60Hz	1440	1280	988	960	85.250	59.201	59.920	P	N	O	O		
1280x1024@60Hz*	1688	1280	1066	1024	108.000	63.981	60.020	P	P	O	O	O	O
1280x1024@60Hz	1440	1280	1054	1024	91.000	63.194	59.957	P	N	O	O	O	O
1360x768@50Hz	1760	1360	791	768	69.500	39.489	49.922	N	P	O	O	O	
1360x768@60Hz	1776	1360	768	768	84.625	47.649	59.936	N	P	O	O	O	
1360x768@60Hz	1520	1360	790	768	72.000	47.368	59.960	P	N	O	O	O	
1600x1200@50Hz	2144	1600	1235	1200	132.375	61.742	49.994	N	P		O		
1600x1200@60Hz	1760	1600	1235	1200	130.375	74.077	59.981	P	N		O		
1920x1080@50Hz	2544	1920	1112	1080	141.375	55.572	49.975	N	P	O	O	O	O
1920x1080@60Hz	2080	1920	1111	1080	138.625	66.647	59.988	P	N	O	O	O	O

=VESA-DMT =VESA-CVT VCRT N = Negative P = Positive * SOG *1 Anycast Station *2 Matrix

DVI-D input signal formats

	LMD-4251TD/LMD-4250W	LMD-2451TD/LMD-2451W	LMD-2051W	LMD-1751W
Vertical frequency	50.0 Hz to 85.1 Hz			
Horizontal frequency	31.5 kHz to 77.0 kHz			
Dot clock	25.175 MHz to 142.000 MHz	25.175 MHz to 148,500 MHz	25.175 MHz to 108.000 MHz	25.175 MHz to 141.000 MHz
Pcture size, phase	Automatically detected by the DE (Data Enable) signal			

* The LMD-940W monitor is not equipped with a DVI-D interface.

Operational Convenience

Marker Settings

LUMA high-grade professional monitors can display various area markers, including a center marker, aspect markers, and safety zone* marker. The brightness of these markers can be selected from three different levels: white, gray, and dark gray. Users can also select either a black or gray mat to fill the outer area of the aspect markers. These flexible marker controls, together with the choice of many different aspect markers, make LUMA high-grade professional monitors extremely convenient display devices for a variety of shooting scenarios, from standard video acquisition to digital cinematography.

* The LMD-940W does not support the safety zone marker.

Marker settings

	16:9 Mode	4:3 Mode
Aspect Marker	4:3, 15:9, 14:9, 13:9, 1.85:1. 2.35:1, 1.85:1 & 4:3	16:9
Center Marker	Yes	
Safety Area	80%, 85%, 88%, 90%, 93%	

4:3 aspect marker image

16:9 aspect marker image

High Picture Performance

High Purity Colour Filters

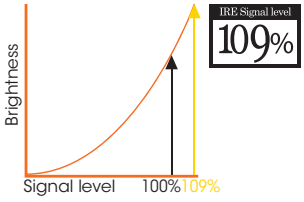
Equipped with high-purity RGB colour filters, LUMA professional monitors achieve colour reproduction with stunning depth and saturation.

Excellent Brightness and Contrast

LUMA professional monitors provide high-brightness, high-contrast images thanks to their wide aperture LCD panels. In addition, the use of precisely manufactured RGB colour filters allows these monitors to reproduce colours with stunning depth and saturation – creating highly natural images.

109% Peak White and 10-bit Signal Processing

Incorporating high-purity RGB colour filters and 10-bit signal processing engine, LUMA professional monitors offer stunning 109% peak white reproduction without clipping and a smooth gray scale along CRT-like gamma.



* Simulated image

8-bit (256-levels) image*

10-bit (1024-levels) image*

* Simulated images

Colour Temperature/Gamma Selection

With LUMA professional monitors, users can select from high, low, or preset colour temperatures. A variety of gamma modes can also be selected.

Incorrect gamma image*

Correct gamma image*

* Simulated images

I/P Mode Selection

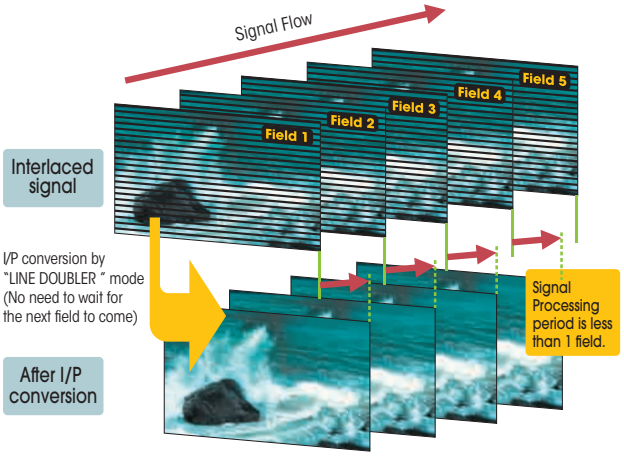
LUMA professional monitors provide two I/P modes so that users can select the most suitable mode for each purpose:

- **INTER-FIELD:** This mode interpolates images between fields. This is used for picture quality precedence (e.g., to reduce the jagged effect on moving pictures).

- **LINE DOUBLER:** This mode interpolates by repeating each line.This is used for editing and monitoring fast-moving images, and checking line flicker. The minimum processing time is less than one field (0.5 frames).

Picture Delay Minimum

Audio is just as much a part of the show as video, and timing is always an issue.
Picture Delay Minimum mode is selectable to minimise I/P conversion times for audio synchronisation during editing.
By selecting "LINE DOUBLER" in IP mode, the signal processing (I/P conversion) period is less than one field (0.5 frames).



Operational Convenience

Marker Settings

LUMA professional monitors can display a center marker and aspect markers. The brightness of these markers can be selected from three different levels: white, gray, and dark gray. Users can also select either a black or gray mat to fill the outer area of the aspect markers. These flexible marker controls, together with the choice of many different aspect markers, make these monitors extremely convenient display devices for a variety of shooting scenarios.

4:3 aspect marker image

16:9 aspect marker image

Selectable Scan Size for Video Input and Aspect Ratio

With LUMA professional monitors, the scan size can be selected:
LMD-1530W: Under (-3%), Over (5%), Full scan
LMD-2110W: Normal (0%), Over (5%), Full scan
The aspect ratio can be switched between 16:9 and 4:3 according to the input signal.

Three-colour Tally

LUMA professional monitors are equipped with a tally lamp that can be lit via a parallel remote connector. The status of the signal displayed on the monitor can be identified by the tally colour: red, green, or amber.

Parallel Remote Control

LUMA professional monitors can be controlled remotely via their parallel remote connectors. In the remote menu, there are 16 functions for the LMD-1530W and LMD-2110W, of which seven can be allocated to the remote connector.

Monaural Audio Monitoring

LUMA professional monitors are equipped with a speaker (0.5 W), which enables the user to monitor audio.

Protected Controls

With LUMA professional monitors, the key-inhibit function helps prevent inadvertent operation from the control panel.

Convenient Installation

Mounting Flexibility

Mountable in a 19-inch EIA Standard Rack

LUMA professional monitors can be mounted in a 19-inch EIA standard rack using optional mounting brackets. The 7U-high LMD-1530W uses MB-533 mounting brackets, and the 9U-high LMD-2110W uses MB-529 mounting brackets.

VESA Mounting

VESA standard mounting holes (100 x 100 mm pitch) are provided on LUMA professional monitors to enable wall or ceiling installation.

Other Features

- Setup level for analog component and NTSC/PAL signals
- Blue-only mode
- External sync IN

Waveform Monitor, Audio Level Meter, and Time Code Display

The input signal's waveform can be displayed on screen.* When an SDI interface is connected, the embedded audio level can be displayed on screen with a 2-channel audio level meter.* Installing an optional BKM-250TG 3G-SDI input adaptor, the LMD-4251TD, LMD-2451TD, LMD-2451W, LMD-2051W, and LMD-1751W can display on screen an 8-channel audio level meter and a time code – either LTC or VITC is selectable.

* The LMD-4251TD and LMD-4250W do not support this function.

Colour Temperature

Colour temperatures of D93, D65, or a user preset value can be selected.

Selectable Scan Size for Video Input and Aspect Ratio

Scan size can be selected between Normal scan, 5% over scan, Full scan, and Native scan modes.* The aspect ratio can be switched between 16:9 and 4:3 according to the input signal.

* Full scan and native scan modes work on specific signal formats.

Three-colour Tally

The LMD-2451TD, LMD-2451W, LMD-2051W, LMD-1751W, and LMD-940W are equipped with a tally lamp that can be lit via a parallel remote connector. The status of the signal displayed on the monitor can be identified by the tally colour – red, green, or amber.

Smart APA (Auto Pixel Alignment) for Computer Input

The image size can be automatically adjusted to its optimal setting with the one-touch APA key.

* The LMD-940W has no computer signal input capability.

External Remote Control Function

LUMA high-grade professional monitors have an external remote control capability for input/output signal selection and adjustment of various items via Ethernet (10BASE-T/100BASE-TX) connection. Up to 32 monitors and up to four control units can be connected via Ethernet connection and controlled remotely on the network. Users can control individual monitors or monitor groups simply by entering the monitor ID or group ID number. They can also execute the same operation on all connected monitors, or put all connected monitors into the same setup and adjustment state.

Power-saving Mode

When no input signal is received for over a minute, the monitor goes into power-saving mode and consumes minimal power. This function prevents unnecessary electrical consumption.

Stereo Audio Monitoring

LUMA high-grade professional monitors* are equipped with stereo speakers (1.0 W + 1.0 W) and a stereo headphone jack, which enable users to monitor audio. The SDI-embedded audio can be monitored by the built-in speakers and the monitor output.

* The LMD-940W is equipped with a speaker (0.5 W) as well as a stereo head phone jack.

Protected Controls

With LUMA high-grade professional monitors, the key-inhibit function helps prevent inadvertent operation from the control panel.

Closed-caption Decoder*1

The closed caption information embedded in EIA 608 and EIA 708*2 can be decoded for display.

*1 The LMD-940W is not equipped with closed caption decoders.
*2 For EIA708, the optional BKM-244CC Closed Caption Adaptor is required.

Convenient Installation

Mounting Flexibility

The LMD-2051W and LMD-1751W are rack-mountable in the EIA 19-inch standard rack, using an optional MB-529 and MB-530 mounting bracket respectively.

* For LMD-940W mounting details, see page 16.

VESA® Mounting

LUMA high-grade professional monitors provide VESA standard mounting holes which support installation on a wall or ceiling:

LMD-4251TD / LMD-4250W	400 x 400 mm pitch
LMD-2451TD / LMD-2451W / LMD-2051W	100 x 100 mm pitch
LMD-1751W	100 x 100 mm and 75 x 75 mm pitch

Other Features

- Multi-display mode
- H/V Delay Function
- ACC Off
- DC Operation
  - 24 V: LMD-2451TD, LMD-2451W, and LMD-2051W
  - 12 V: LMD-1751W and LMD-940W
- Setup Level for Analog Component and NTSC signal
- Sub Control on Contrast, Chroma, Phase, and Brightness
- Blue-only Mode
- Monochrome Mode
- Auto Chroma/Phase Setup
- Power-saving Function

High-grade Professional Series [Slim Bezel]

LMD-2341W

LMD-1541W

Inheriting the critical functions and performance of Sony's highly acclaimed LUMA™ Series high-grade professional monitors – the LMD-51W Series – the outstanding new LMD-2341W (23-inch*1) and LMD-1541W (15.3-inch*2) high-grade LCD video monitors are the latest enhancement to this series.

These monitors incorporate a lightweight, robust aluminum slim bezel and compact body, plus built-in standard SDI (3G/HD/SD), composite, and HDMI interfaces. They are specially designed to suit monitor-wall installation in studios and outside broadcast (OB) vans. Not only this, but these monitors are ideal for a variety of professional video and industrial image-monitoring applications when critical picture quality and professional features are required.

*1 584.2 mm, viewing area measured diagonally. *2 388.6 mm, viewing area measured diagonally.

Slim Bezel, Compact Design for Monitor-wall Installation

Incorporating a lightweight and robust aluminum slim bezel and compact body, the LMD-2341W and LMD-1541W are a highly appropriate solution for monitor-wall installation, both in studio sub-control rooms and OB vans.

LMD-2341W LMD-1541W

Easy-to-use Control Panel

A rotary-type switch and seven function-assignable buttons allow users speedy and intuitive operation. Operation buttons with LED indicators enable error-free operation, even in dark environments.* The control panel of the LMD-2341W can be covered with a supplied control panel cover to simplify its appearance on a monitor wall.

* LED lights can be switched on/off.

Control panel with LED lights-on

The LMD-2341W with a control panel cover

In-monitor Display (IMD) Function

The LMD-2341W and LMD-1541W support the TSL UMD protocol and can display on screen two tally lamps and dynamic text information received via Ethernet. Up to 16 unicode characters*1 can be displayed. IMD text can be positioned at the top or bottom of the screen. Both the text colour and the tally lamp colour are separately selectable either in a commanded colour or in one of eight pre-installed colours.*2

*1 English alphabets, numbers, symbolic codes, and Japanese letters.
*2 White, red, green, blue, yellow, cyan, magenta, and amber.

In-monitor display (IMD) image

Desk-top Editing and Office Viewing

By installing an optional monitor stand*, the LMD-2341W and LMD-1541W can be used as desk-top monitors both for editing and office viewing.

* The optional SU-561 stand can be used for both monitors, and the optional SU-562 stand is for the LMD-1541W only.

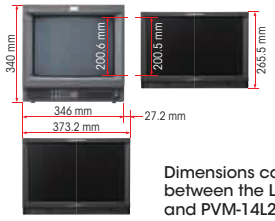
LMD-2341W with SU-561*

LMD-1541W with SU-562*

* Simulated images
*Monitor stands are optional

Ideal for CRT Monitor Replacement

The LMD-1541W and the PVM-14L2, Sony's most popular 14-inch 4:3 aspect CRT monitor, share almost the same viewable area height. The body of the LMD-1541W – which houses a 15.3-inch diagonal, 15:9 aspect screen – is 74.5 mm shorter in height and only 27.2 mm wider than the PVM-14L2 body. And with its space-saving design, the LMD-1541W can be installed effectively in small spaces.



Dimensions comparison between the LMD-1541W and PVM-14L2

Waveform Monitor, Audio Level Meter*, and Time Code Display

The input signal's waveform with a 2-channel audio level meter can be displayed on screen. When an SDI interface is connected, the embedded audio level can be displayed on screen with an 8-channel audio level meter. A time code superimposed on SDI signals can be displayed on screen. Users can select either LTC or VITC.

* The Audio Level Meter function works only when receiving SDI-embedded audio signals.

The waveform monitor, 2-channel audio level meter, and time code display*

The 8-channel audio level meter*

* Simulated images

External Remote Control Function

The LMD-2341W and LMD-1541W have an external remote control capability for input/output signal selection and adjustment of various items via Ethernet (10BASE-T/100BASE-TX) connection. Up to 32 monitors and up to four control units can be connected via Ethernet connection and controlled remotely on the network. Also these monitors support some functions of the BKM-16R – an optional remote control unit for BVM-L/PVM-L Series monitors – such as the power on/off switch and the Input Select function.*

* The LMD-2341W and LMD-1541W do not support all BKM-16R functions.

Superb Picture Performance and Colour Consistency

The LMD-2341W (23-inch) full-HD resolution (1920 x 1080 pixels) and LMD-1541W (15.3-inch) WXGA resolution (1280 x 768 pixels) high-performance LCD panels reproduce lifelike precise images and accurate colour.
Incorporating an IPS panel, the LMD-2341W and LMD-1541W both offer a wide viewing angle.
A combination of Sony's unique ChromaTRU colour matching technology and 10-bit signal processing delivers a stunning smooth gray scale, emulating the colours and gammas of broadcast-standard CRT monitors. Users can select the required colour space within this gamut. In addition, ChromaTRU technology provides these monitors with colour consistency in a multi-monitor system, and offers the best solution for a monitor-wall installation.

8-bit (256-levels) image*

10-bit (1024-levels) image*

* Simulated images

Furthermore, the Auto White Balance Calibration function ensures simple adjustment of each monitor's white balance. This function works with the combination of a PC and a commercially available calibration tool (X-Rite i1Pro series).

A Variety of Marker Settings

LMD-2341W and LMD-1541W monitors can display a center marker, aspect markers, and safety zone markers.

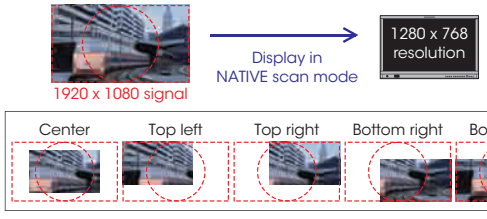
4:3 aspect marker image

16:9 aspect marker image

Scan Mode Selection

Scan size can be selected from normal scan (0%), over scan (5%), full scan, and native scan modes.* The aspect ratio can be switched between 16:9 and 4:3 according to the input signal. As a new function of the LMD-1541W, when a 1920 x 1080i or 1080p signal is input, the image frame of native scan can be shifted in five patterns: center, top-left, top-right, bottom-right, and bottom-left.

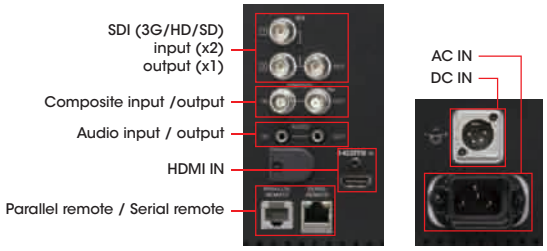
*Full Scan and Native Scan modes work on specific signal formats.



An LMD-1541W native scan framing image

Input Versatility

The LMD-2341W and LMD-1541W are equipped with built-in standard input interfaces: two SDI (3G/HD/SD-SDI), one composite, and one HDMI input.



The LMD-2341W and LMD-1541W connector panel

Video input signal formats

System	Composite	SD/HD	3G	HDMI
575/50 (PAL)	○	○	–	○
480/60 (NTSC)*3	○	○	–	○
576/50p	–	–	–	○
480/60p*3	–	–	–	○
640 x 480/60p*3	–	–	–	○
1080/24PsF*1*3	–	○	–	–
1080/25PsF*2	–	○	–	–
1080/24p*3	–	○	–	○
1080/25p	–	○	–	○
1080/30p*3	–	○	–	○
1080/50i	–	○	–	○
1080/60i*3	–	○	–	○
720/50p	–	○	–	○*4
720/60p*3	–	○	–	○*4
1080/50p*5	–	–	○	○*4
1080/60p*3*5	–	–	○	○*4

*1 The format on the screen is displayed as 1080/48i.
*2 The format on the screen is displayed as 1080/50i.
*3 The frame rate is also compatible with 1/1.001.
*4 Available when a DVI signal is input with a DVI conversion cable connected to the HDMI IN connector.
*5 10-bit 4:2:2 Y/Cb/Cr is supported.

DVI-D input signal formats

Resolution	Dot clock (MHz)	fH (kHz)	fV (Hz)
640 x 480	25.175	31.5	60
1280 x 768	68.250	47.4	
1280 x 1024	108.000	64.0	
1360 x 768	85.500	47.7	
1440 x 900	88.750	55.5	
1680 x 1050	119.000	64.7	

• A DVI conversion cable is required.
• The sides of the displayed picture may be hidden depending on the input signal.

Other Features

- Key Inhibit function
- I/P mode selection
- H/V Delay function
- Blue-only mode
- Auto chroma/phase setup
- Power-saving function
- DC operation
  LMD-2341W: 24 V
  LMD-1541W: 12 V
- VESA standard mounting (100 x 100 mm pitch)
- EIA 19" standard rack mount with the optional MB-534 mounting bracket (LMD-1541W only)

LUMA High-grade Professional Portable Monitor

LMD-940W

The LMD-940W is a 9-inch*, WVGA resolution (800 x 480 pixels) LUMA high-grade professional high-performance monitor incorporating a 10-bit signal processing and Sony's unique ChromaTRU technology to deliver superb picture performance and consistency. It also offers a convenient compact size with the mobility and smart functions required for both indoor and outdoor use.

ChromaTRU

* 227 mm, viewable area measured diagonally.

Usable Body Design for Indoor and Outdoor Uses

Robust, Lightweight, and Compact Body

Incorporating a lightweight and compact aluminum-diecast body, this model is flexible enough to change style according to user requirements: with or without a stand, tilted on a stand (15-degree slant), EIA 19" standard rack-mounted, or set on a camera pedestal.

Tilt stand With stand Without stand

1/4 inch hole
3/8 inch hole

LMD-940W with optional MB-531 and MB-532

LMD-940W base with camera pedestal holes

Detachable AR (anti-reflection)-coated Protection Panel

AR-coated protection panel keeps the LCD panel surface from scratch. Added to this, it provides a high transmission rate of the internal light source to keep the picture as bright as possible, and it keeps reflection from ambient light to a minimum.

Protection panel

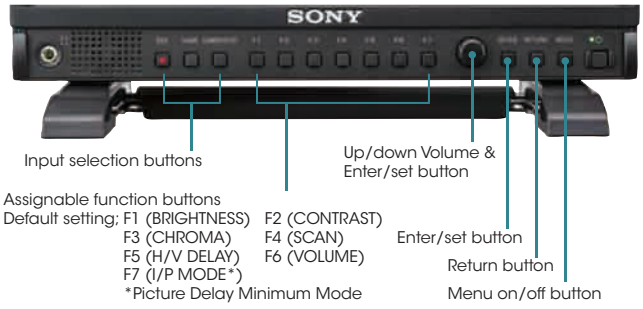
ENG Kit VF-510

The optional VF-510 ENG Kit provides a viewing hood, carrying handle, and connector protector.

LMD-940W with VF-510

Control Panel Design

The LMD-940W incorporates a new control panel design. Seven functions can be allocated to the assignable buttons.* Button lights are dimmable and indicator lights are on/off switchable. This function allows users to easily operate a monitoring in a dark environment without interference of the lights.



Operational Convenience

Camera Focus Function

The LMD-940W can control and increase the aperture level of a video signal, and display images on the screen with sharpened edges to help camera focus operation. This camera focus function can be even enhanced when combined with the native scan mode.

Waveform Monitor and Audio Level Meter Display*

An input signal's waveform with a 2-channel audio level meter can be displayed on screen. An SDI-embedded audio level can be displayed on screen with an 8-channel audio level meter.

* The LMD-940W supports the on-screen audio level meter when it receives an SDI-embedded audio signal.

Waveform monitor

Audio level meter

Center Marker and Aspect Marker Setting

The LMD-940W can display a center marker and aspect markers. The brightness of these markers can be selected from three different levels: white, gray, and dark gray. Users can also select either a black or gray mat to fill the outer area of the aspect markers.

4:3 aspect marker image

16:9 aspect marker image

Other Features

- Fan-motor control function
- Excellent picture quality with its WVGA panel (NTSC/PAL)
- AC/DC operations

Common Features with the LUMA High-grade Professional Monitors.

- Colour Temperature (D65, D93, or user preset)
- Scan Setting: Normal (0%), Over scan (5%), Native scan
- Auto White Balance Calibration Function
- External Remote Control Function
- Protected Controls (Key Inhibit Function)
- I/P Mode Selection
- Power-saving Mode
- Blue-only Mode
- Select Language Display
- Three-colour Tally
- Auto Chroma/Phase Function
- H/V Delay Mode

Professional Series

LUMA professional monitors, including the newly added LMD-2110W – a 21.5-inch full-HD resolution (1920 x 1080 pixels) multi-format professional monitor – incorporate high-purity RGB colour filters and a 10-bit signal processing engine. They offer stunning 109% peak white reproduction without clipping, and a smooth gray scale along CRT-like gamma. While these capabilities are appropriate for professional use, this type of LUMA monitor is also suited for use with consumer video and digital camera products – each is equipped with an HDMI connector. These monitors are therefore ideal for both professional and semi-professional high-definition applications.

Model Types

	LMD-1530W	LMD-2110W
Panel size (diagonal)	15.3-inch	21.5-inch
Resolution	1280 x 768	1920 x 1080
Aspect ratio	15:9	16:9
Desktop stand	Supplied	Supplied
EIA 19" rack mount	Optional MB-533	Optional MB-529
VESA mounting (mm)	100 x 100	100 x 100

LMD-1530W

LMD-2110W

Wide Viewing Angle – LMD-1530W

The LCD panel used in the LMD-1530W provides a wide viewing angle of 178 degrees, both horizontally and vertically, with minimal reduction in picture contrast. This allows images to be viewed from various positions and angles.

* Simulated image

Input Versatility

LUMA professional monitors come equipped with a full range of analog SD inputs including analog composite NTSC and PAL, Y/C (S-Video), and 525i/625i component and RGB. These monitors can also handle SD-SDI input by using the optional BKM-320D SD-SDI input adaptor.

Furthermore, LUMA monitors offer an HD signal input capability via their HDMI and analog component interface, and also can accept DVI signals via the HDMI interface.*

* A DVI conversion cable is required.

Video Input Signals/Input Adaptors

Input Signal				Interface			
System	Total Line	Active Line	Aspect Ratio	Composite Y/C	RGB Component	SD-SDI	HDMI
				Standard		Optional BKM-320D	Standard
575/50i (PAL)	625	575	16:9/4:3	O	O	O	O
480/60i (NTSC)*1	525	483	16:9/4:3	O	O	O	O
576/50P	625	576	16:9/4:3	N.A.	O	N.A.	O
480/60P	525	483	16:9/4:3	N.A.	O	N.A.	O
1080/24P*1	1125	1080	16:9	N.A.	O*2	N.A.	O
1080/25P	1125	1080	16:9	N.A.	O*2	N.A.	O
1080/30P*1	1125	1080	16:9	N.A.	O*2	N.A.	O
1080/50i	1125	1080	16:9	N.A.	O*2	N.A.	O
1080/60i*1	1125	1080	16:9	N.A.	O	N.A.	O
720/50P	750	720	16:9	N.A.	O*2	N.A.	O
720/60P*1	750	720	16:9	N.A.	O	N.A.	O

*1 The frame rate is also compatible with 1/1.001 frame rates. *2 Component signals only.

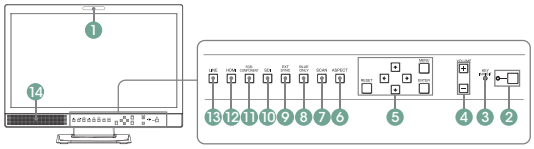
DVI Input Signals

Resolution	Dot clock (MHz)	fH (kHz)	fV (Hz)	LMD-1530W	LMD-2110W
720 x 400 70Hz	28.322	31.469	70.087	O	O
800 x 600 56Hz	36.000	35.156	56.250	O	O
800 x 600 60Hz	40.000	37.879	60.317	O	O
1024 x 768 60Hz	65.000	48.363	60.004	O	O
1280 x 768 60Hz	79.500	47.776	59.870	O	–
1280 x 1024 60Hz	108.000	63.981	60.020	–	O

*A DVI conversion cable is required.

Control Panel

LMD-1530W/LMD-2110W

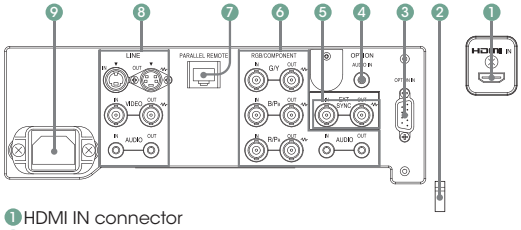


LMD-1530W

1. Tally lamp
2. Standby switch and indicator
3. Key Inhibit indicator
4. Volume buttons
5. Menu operation buttons
6. ASPECT select button
7. SCAN select button
8. Blue-only button
9. EXT SYNC (external sync) button
10. SDI button
11. RGB/COMPONENT button
12. HDMI button
13. LINE
14. Speaker

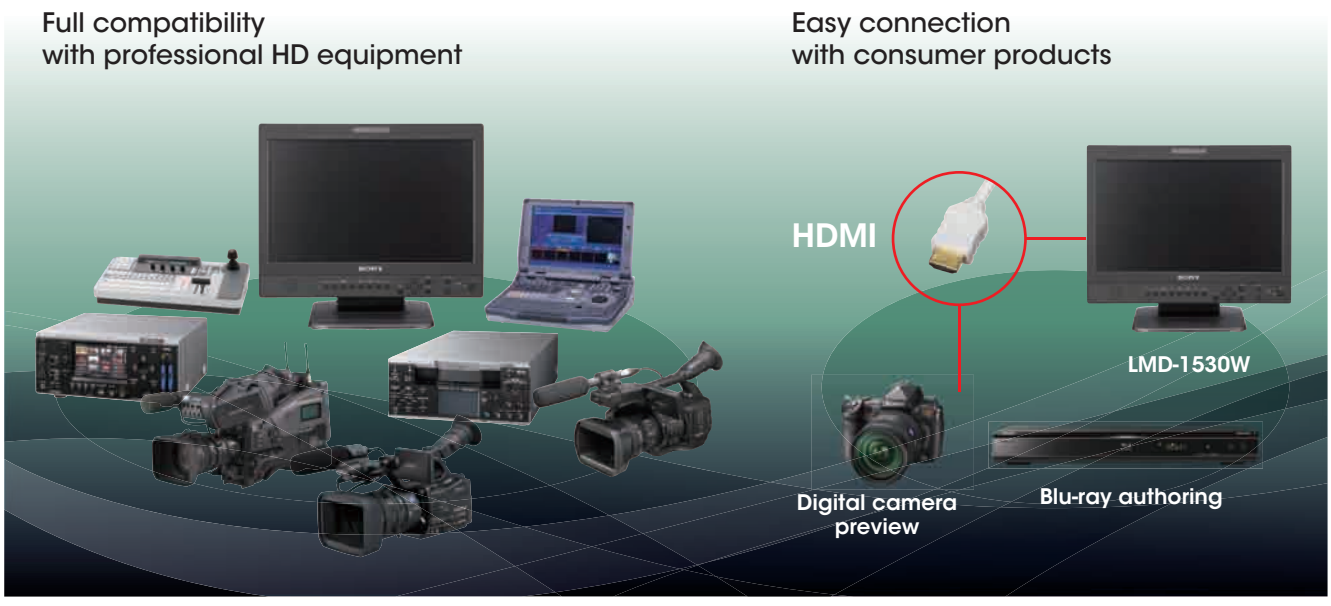
Connector Panel

LMD-1530W/LMD-2110W



LMD-1530W

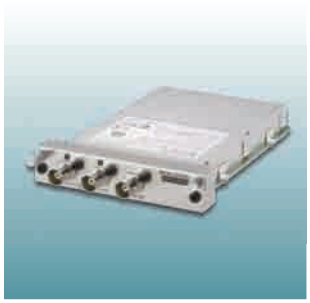
1. HDMI IN connector
2. HDMI cable holder
3. OPTION In connector
4. OPTION AUDIO In (Phono jack)
5. EXT SYNC In/Out (external sync) (BNC)
6. RGB/COMPONENT (BNC), Audio (Phono jack)
7. PARALLEL REMOTE (modular connector)
8. LINE [composite (BNC), Y/C (Mini DIN 4-pin), Audio (Phono jack)]
9. AC In



Optional Accessories

BKM-250TG
3G/3D/HD/SD-SDI Input Adaptor
(for high-grade professional,
excluding LMD-4250W)

BKM-244CC
HD/SD-SDI Closed Caption
Adaptor
(for high-grade professional)



BKM-243HS
HD/SD-SDI Input Adaptor
(for high-grade professional)

BKM-220D
SD-SDI 4:2:2 Input Adaptor
(for high-grade professional)

BKM-229X
Analog Component Adaptor
(for high-grade professional)

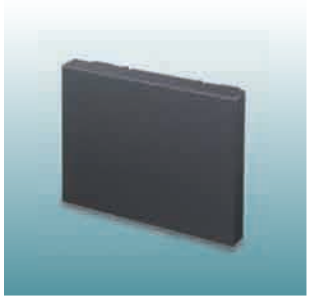
BKM-227W
NTSC/PAL Input Adaptor
(for high-grade professional)

SU-561
Mounting Stand
(for LMD-1751W and LMD-2341W)

MB-529
Mounting Bracket
(for LMD-2051W and LMD-2110W)

MB-530
Mounting Bracket
(for LMD-1751W)

MB-531
Mounting Bracket
(for PVM-740 and LMD-940W)



MB-532
Mounting Panel
(for PVM-740 and LMD-940W)

VF-510
ENG Kit (Viewing Hood, Carrying
Handle and Connector Protector)
(for PVM-740 and LMD-940W)

BKM-320D
SD-SDI Input Adaptor
(for LMD-1530W and LMD-2110W)

MB-533
Mounting Bracket
(for LMD-1530W)

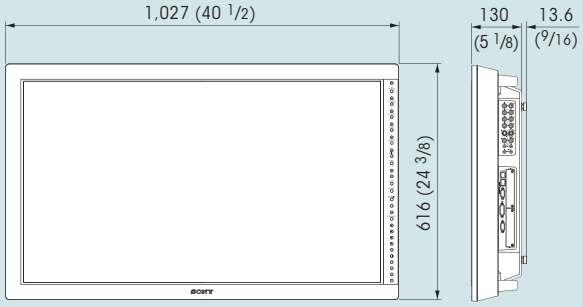
SU-562
Monitor Stand
(for LMD-1541W only)

MB-534
Mounting Bracket
(for LMD-1541W only)

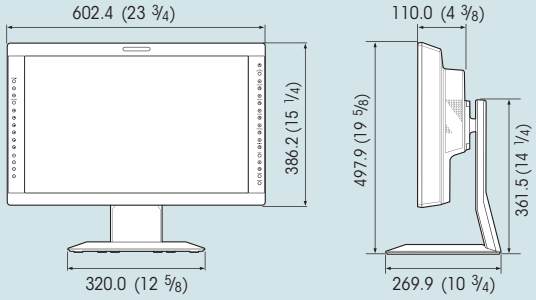
Dimensions

3D/High-grade Professional Series

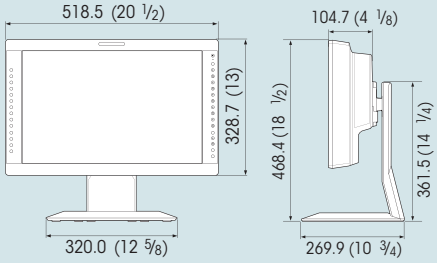
LMD-4251TD/LMD-4250W



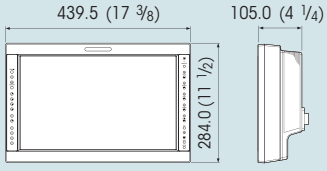
LMD-2451TD/LMD-2451W



LMD-2051W

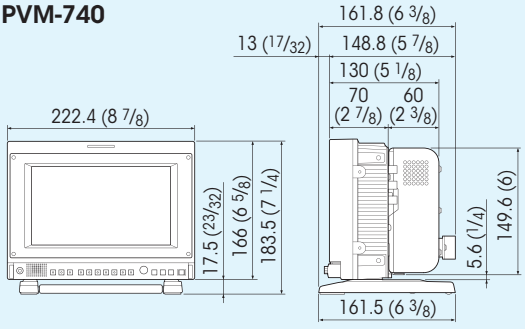


LMD-1751W

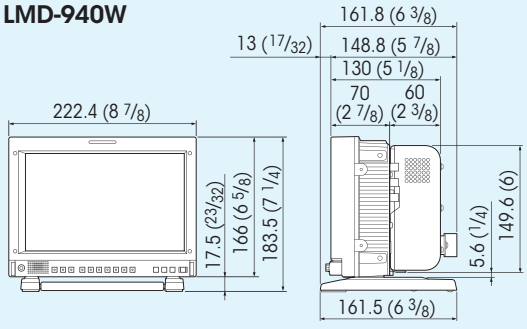


OLED Portable Monitor

PVM-740



LMD-940W

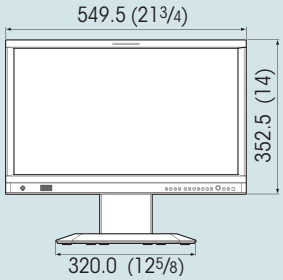


Dimensions

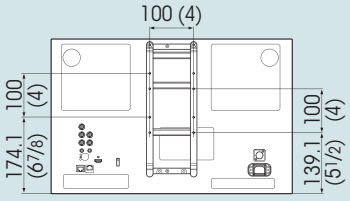
High-grade Slim Bezel Professional Series

LMD-2341W

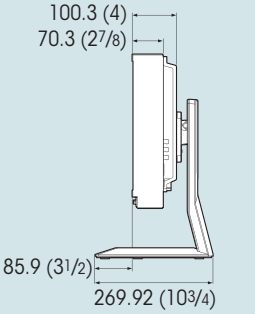
Front with optional SU-561



Rear

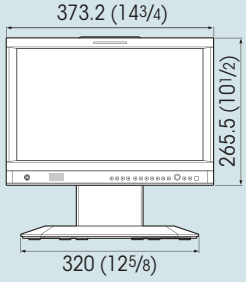


Side with optional SU-561

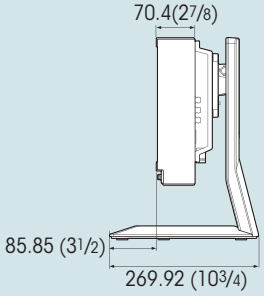


LMD-1541W

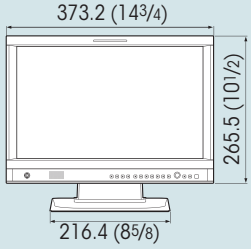
Front with optional SU-561



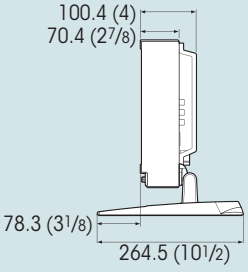
Side with optional SU-561



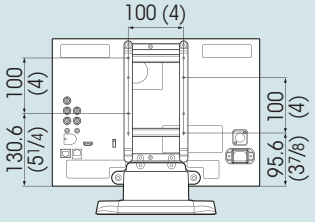
Front with optional SU-562



Side with optional SU-562

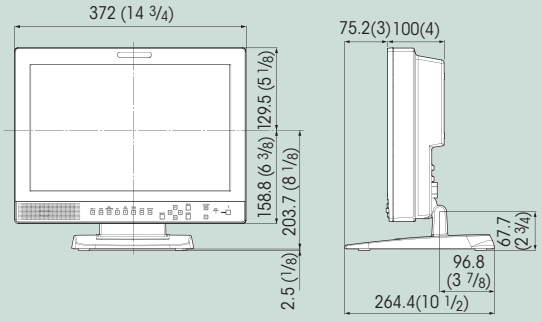


Rear with optional SU-562

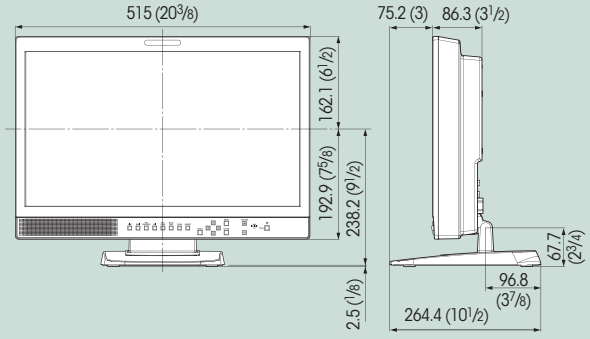


Professional Series

LMD-1530W



LMD-2110W



Feature Comparison

High-grade type	LMD-4251TD/ LMD-4250W	LMD-2451TD/ LMD-2451W	LMD-2051W	LMD-1751W	LMD-2341W	LMD-1541W
Panel type	a-Si TFT Active Matrix					
Picture size*1	42-inch	24-inch	20-inch	17-inch	23-inch	15-inch
Resolution (pixels)	1920 x 1080	1920 x 1200	1680 x 1050	1280 x 768	1920 x 1080	1280 x 768
Aspect ratio	16:9	16:10		15:9	16:9	15:9
Colours	Approx. 16.7 million colors					
Input interface						
Composite	BNC (x1), Optional BKM-227W BNC (x1)					
Y/C	Mini DIN 4-pin (x1), Optional BKM-227W Mini DIN 4-pin (x1)					
RGB/Component	BNC (x3), Optional BKM-229X BNC (x3)					
SD-SDI	Optional BKM-220D BNC (x2)				BNC (x2) for 3G/HD/SD-SDI	
HD/SD-SDI	Optional BKM-243HS, BKM-244CC BNC (x2)					
3G/HD/SD-SDI	Optional BKM-250TG BNC (x2)*3					
DVI-D	DVI-D (x1)				HDMI (x1)	
HD15	D-sub 15-pin (x1)					
Audio	Phono jack (x2) (L/R)				Stereo mini jack (x1)	
External sync	BNC (x1), Optional BKM-229X BNC (x1)					
Option slot	2 slots (BKM-220D, BKM-227W, BKM-229X, BKM-243HS, BKM-244CC, BKM-250TG*3)					
Output interface						
Composite	BNC (x1)*2, Optional BKM-227W BNC (x1)*2				BNC (x1)	
Y/C	Mini DIN 4-pin (x1)*2, Optional BKM-227W Mini DIN 4-pin (x1)*2					
RGB/Component	BNC (x3)*2					
SD-SDI	Optional BKM-220D BNC (x1)*2				BNC (x1) for 3G/HD/SD-SDI	
HD/SD-SDI	Optional BKM-243HS, BKM-244CC BNC (x1)*2					
3G/HD/SD-SDI	Optional BKM-250TG BNC (x2)*2*3					
External sync	BNC (x1)*2					
Audio monitor out	Phono jack (x2) (L/R)				Stereo mini jack	
Speaker (built-in)	1.0 W + 1.0 W (stereo)				1.0 W	0.5 W
Remote control						
Parallel remote	Modular connector 8-pin (x1), (pin-assignable)					
Serial remote	D-sub 9-pin (RS-232C) (x1), RJ-45 modular connector (Ethernet) (x1) (10BASE-T/100BASE-TX)					
Features						
Signal processing	10-bit					
Colour matching	ChromaTRU					
Auto white balance caribration	Yes*3*4					
I/P mode selection	3 modes (Inter field, Field merge, Line doubler)					
Power saving mode	Yes					
Markers	Aspect, Center, Safety Area					
Waveform monitor	–	Yes				
Audio level meter	8-ch, SDI-embed ded audio*3*5	2-ch and 8-ch*5, SDI-embedded audio				
Colour temperature	D65, D93, user					
Closed caption	EIA608 (standard), EIA708 (optional BKM-244CC)					
Aspect switch	16:9, 4:3					
Scan mode	Normal (0%), Over (5%), Native*6	Normal (0%), Over (5%), Full*6, Native*6				
Blue only	Yes					
H/V delay	Yes					
Tally	–	3 colors				
Smart APA	Yes					
EIA 19-inch rack mounting	–		Optional MB-529	Optional MB-530	–	Optional MB-534
VESA mounting	400 x 400 mm	100 x 100 mm	100 x 100 mm	100x100mm, 75x75mm	100 x 100 mm	
Desktop stand	–	Supplied	Supplied	Optional SU-561	Optional SU-561	Optional SU-562
DC operation	–	24 V		12 V	24 V	12 V

3D Features	LMD-4251TD	LMD-2451TD
Micro-polarizer 3D filter	Yes	
Lightweight circular-polarizer 3D glasses	Yes (2 sets)	
3G-SDI level-B input	Yes*7	
Dual-stream HD-SDI input	Yes*7	
HD-SDI line interleave (line-by-line) input	Yes*7	
HD-SDI side-by-side input	Yes*7	
HD-SDI frame sequential	Yes*7	
DVI-D line interleave (line-by-line) input	Yes	
Flip H	Yes*8	
Disparity simulation	Yes*8	
Checker board display	Yes*8	
L/R switch	Yes*8	
Horopter check	Yes*8	
Payload ID display	Yes*8	
2D/3D select	Yes	

*1 Viewable area, measured diagonally. *2 Loop-through, automatic termination. *3 LMD-4250W does not support. *4 This works with the combination of a PC and a commercially available calibration tool (X-Rite i1 Pro). *5 the 8-ch audio level meter can be displayed when the oprional BKM-250TG input adaptor is installed. *6 The full scan and native scan modes work on specific signal formats. *7 An optional BKM-250TG 3G-SDI input adapter is required. *8 This function works when 3G-SDI (level-B) or dual-stream HD-SDI signals are input via the optional BKM-250TG input adaptor.

OLED Portable	PVM-740
Panel type	OLED Super Top Emission
Picture size*1	7.4-inch
Resolution (pixels)	960 x 540
Aspect ratio	16:9
Colors	Approx. 16.7 million colors
Input interface	
Composite	BNC (x1)
3G/HD/SD-SDI	BNC (x1)
HDMI	HDMI (x1)
Audio	Stereo mini jack (x1)
Output interface	
Composite	BNC (x1)*2
3G/HD/SD-SDI	BNC (x1)*2
Audio monitor out	Stereo mini jack (x1)
Speaker (built-in)	0.5 W (mono)
Headphones output	Stereo mini jack (x1)
Remote control	
Parallel remote	Modular connector 8-pin (x1), (pin-assignable)
Serial remote	RJ-45 modular connector (Ethernet) (x1)
Features	
Signal processing	10-bit
Color matching	ChromaTRU
I/P mode selection	3 modes (Inter field, Field merge, Line doubler)
Power saving mode	Yes
Camera focus function	Yes
Flip function	Yes (H, V, H/V)
Silent mode	Yes
Markers	Aspect, Center
Waveform monitor	Yes
Audio level meter	2-ch and 8-ch SDI-embedded audio
Color temperature	D65, D93, user
Aspect switch	16:9, 4:3
Scan mode	Normal (0%), Over (5%), Native*3
Blue only	Yes
H/V delay	Yes
Tally	3 colors
EIA 19-inch rack mounting	Optional MB-531
Desktop stand	Supplied
DC operation	12 V

*1 Viewable area, measured diagonally.
*2 Loop-through, automatic termination.
*3 The full scan and native scan modes work on specific signal formats.

High-grade Professional	LMD-940W
Panel type	a-Si TFT Active Matrix
Picture size*1	9-inch
Resolution (pixels)	800 x 480
Aspect ratio	15:9
Colors	Approx. 16.7 million colors
Input interface	
Composite	BNC (x1)
3G/HD/SD-SDI	BNC (x1)
HDMI	HDMI (x1)
Audio	Stereo mini jack (x1)
Output interface	
Composite	BNC (x1)*2
3G/HD/SD-SDI	BNC (x1)*2
Audio monitor out	Stereo mini jack (x1)
Speaker (built-in)	0.5 W (mono)
Headphones output	Stereo mini jack (x1)
Remote control	
Parallel remote	Modular connector 8-pin (x1), (pin-assignable)
Serial remote	RJ-45 modular connector (Ethernet) (x1)
Features	
Signal processing	10-bit
Color matching	ChromaTRU
Auto white balance caribration	Yes*3
I/P mode selection	3 modes (Inter field, Field merge, Line doubler)
Power saving mode	Yes
Camera focus function	Yes
Markers	Aspect, Center
Waveform monitor	Yes
Audio level meter	2-ch and 8-ch SDI-embedded audio
Color temperature	D65, D93, user
Aspect switch	16:9, 4:3
Scan mode	Normal (0%), Over (5%), Native*4
Blue only	Yes
H/V delay	Yes
Tally	3 colors
EIA 19-inch rack mounting	Optional MB-531
Desktop stand	Supplied
DC operation	12 V

*1 Viewable area, measured diagonally.
*2 Loop-through, automatic termination.
*3 The LMD-940W supports this function from V1.05 or later.
*4 The full scan and native scan modes work on specific signal formats.

Professional	LMD-1530W	LMD-2110W
Panel type	a-Si TFT Active Matrix	
Picture size*1	15.3-inch	21.5-inch
Resolution (pixels)	1280 x 768	1920 x 1080
Aspect ratio	15:9	16:9
Colors	Approx. 16.7 million colors	
Input interface		
Composite	BNC (x1)	
Y/C	Mini DIN 4-pin (x1)	
RGB/Component	BNC (x3)	
SD-SDI	Optional BKM-320D BNC (x1)	
HDMI	HDMI (x1)	
DVI-D	via HDMI (x1)*2	
Audio	Phono jack (x1)	
External sync	BNC (x1)	
Option connector	D-sub 9-pin (for BKM-320D), Phono jack (x1)	
Output interface		
Composite	BNC (x1)*3	
Y/C	Mini DIN 4-pin (x1)*3	
RGB/Component	BNC (x3)*3	
External sync	BNC (x1)*3	
Audio monitor out	Phono jack (x1)	
Speaker (built-in)	0.5 W (mono)	

Professional	LMD-1530W	LMD-2110W
Remote control		
Parallel remote	Modular connector 8-pin (x1), (pin-assignable)	
Features		
Signal processing	10-bit	
I/P mode selection	2 modes (Inter field, Line doubler)	
Markers	Aspect, Center	
Color temperature	High, Low, User	
Aspect switch	16:9, 4:3	
Scan	Under (-3%), Over (5%), Full	Normal (0%), Over (5%), Full
Blue only	Yes	
Tally	3 colors	
EIA 19-inch rack mounting	Optional MB-533	Optional MB-529
VESA mounting	100 x 100 mm	
Desktop stand	Supplied	

*1 Viewable area, measured diagonally.
*2 DVI-D/HDMI conversion cable is required.
*3 Loop-through, automatic termination.

Specifications

High-grade Professional (3D/2D)

LMD-4251TD

LMD-2451TD

Picture Performance		
Type	a-Si TFT Active Matrix LCD	
Resolution	1920 x 1080 pixels (Full HD)	1920 x 1200 pixels (WUXGA)
Effective picture size (H x W) (Diagonal)	930 x 523 mm (36 3/4 x 20 3/4 inches) 1067 mm (Approx. 42 inches)	518.4 x 324.0 mm (20 1/2 x 12 7/8 inches) 613.2 mm (24 1/4 inches)
Aspect	16:9	16:10
Colors	Approx. 16.7 million colors	
Viewing angle (2D mode)	89°/89°/89°/89° (typical) (up/down/left/right contrast > 10:1)	
Vertical viewing angle (3D mode)	40° at a viewing distance more than 600 mm, crosstalk less than 7% (typical)	50° at a viewing distance more than 300 mm, crosstalk less than 7% (typical)
Input		
Composite	BNC (x1), 1.0 Vp-p ±3dB sync negative	
Y/C	Mini DIN 4-pin (x1) Y: 1.0 Vp-p ±3dB sync negative, C: 0.286 Vp-p ±3dB (NTSC burst signal level), 0.3 Vp-p ±3dB (PAL burst signal level)	
RGB, Component	BNC (x3) RGB: 0.7 Vp-p ±3dB (Sync On Green, 0.3 Vp-p sync negative) Component: 0.7 Vp-p ±3dB (75% chrominance standard color bar signal)	
DVI-D	DVI-D (x1) TMDS single link	
HD15	D-sub 15-pin (x1) R/G/B: 0.7 Vp-p sync positive (Sync On Green, 0.3 Vp-p sync negative) Sync: Total level (polarity free, H/V separate sync) Plug & Play function: corresponds to DDC2B	
Audio	Phono jack (x2) (L, R), -5 dBu 47 kilohms or higher	
External sync	BNC (x1) 0.3 Vp-p to 4.0 Vp-p ± bipolarity ternary or negative polarity binary	
Option slot	2 slots Signal format: H: 15 kHz to 45 kHz, V: 48 Hz to 60 Hz	
Parallel remote	Modular connector 8-pin (x1) (Pin-assignable)	
Serial remote	D-sub 9-pin (RS-232C) (x1), RJ-45 modular connector (Ethernet) (x1) (10BASE-T/100BASE-TX)	
DC in	–	DC 24 V (output impedance 0.05 ohms or less)
Output		
Composite	BNC (x1), Loop-through, with 75 ohms automatic termination	
Y/C	Mini DIN 4-pin (x1), Loop-through, with 75 ohms automatic termination	
RGB, Component	BNC (x3), Loop-through, with 75 ohms automatic termination	
SDI	–	
External sync	BNC (x1), Loop-through, with 75 ohms automatic termination	
Audio monitor out	Phono jack (x2) (L, R)	
Speaker (Built-in)	1.0 W + 1.0 W (stereo)	
Headphones output	–	
General		
Power requirement	AC 100 V to 240 V, 50/60 Hz, 2.3 A to 1.1 A	AC 100 V to 240 V, 50/60 Hz, 1.5 A to 0.7 A DC 24 V, 5.7 A
Power consumption	Maximum: approx. 230 W (with 2 x BKM-229X)	Maximum: approx. 130 W (with 2 x BKM-229X)
Operating temperature	0°C to 35°C (32°F to 95°F) Recommended: 20°C to 30°C (68°F to 86°F)	
Operating humidity	30% to 85% (no condensation)	
Storage and transport temperature	-20°C to +60°C (-4°F to +140°F)	
Storage and transport humidity	0% to 90%	
Operating, storage, and transport pressure	700 hPa to 1060 hPa	
Dimensions (W x H x D) (with stand)	–	602.4 x 497.9 x 269.9 mm (23 3/4 x 19 5/8 x 10 3/4 inches)
Dimensions (W x H x D) (without stand)	1027 x 616 x 130 mm (40 1/2 x 24 3/8 x 5 1/8 inches)	602.4 x 386.2 x 110.0 mm (23 3/4 x 15 1/4 x 4 3/8 inches)
Mass (with options)	23.5 kg (51 lb 13 oz) (with 2 x BKM-229X)	11.5 kg (25 lb 6 oz) (with 2 x BKM-229X)
Mass	23 kg (50 lb 11 oz)	11.0 kg (24 lb 4 oz)
Supplied accessories	AC power cord (1), AC plug holder (1), 3D glasses (including case) (2), L/R labels (1), Operating Instructions (1), CD-ROM (1), Using the CD-ROM Manual (1), Warranty book (1)	

High-grade Professional (2D)

LMD-4250W

LMD-2451W

LMD-2051W

LMD-1751W

Picture Performance				
Type	a-Si TFT Active Matrix LCD			
Resolution	1920 x 1080 pixels (Full HD)	1920 x 1200 pixels (WUXGA)	1680 x 1050 pixels (WSXGA+)	1280 x 768 pixels (WXGA)
Effective picture size (H x W) (Diagonal)	930 x 523 mm (36 3/4 x 20 3/4 inches) 1067 mm (Approx. 42 inches)	518.4 x 324.0 mm (20 1/2 x 12 7/8 inches) 613.2 mm (24 1/4 inches)	433.4 x 270.9 mm (17 1/8 x 10 3/4 inches) 511.1 mm (20 1/8 inches)	370 x 222 mm (14 5/8 x 8 3/4 inches) 431 mm (17 inches)
Aspect	16:9	16:10		15:9
Colors	Approx. 16.7 million colors			
Viewing angle	88°/88°/88°/88° (typical) (up/down/left/right contrast > 10:1)	89°/89°/89°/89° (typical) (up/down/left/right contrast > 10:1)		
Input				
Composite	BNC (x1), 1.0 Vp-p ±3dB sync negative			
Y/C	Mini DIN 4-pin (x1) Y: 1.0 Vp-p ±3dB sync negative, C: 0.286 Vp-p ±3dB (NTSC burst signal level), 0.3 Vp-p ±3dB (PAL burst signal level)			
RGB, Component	BNC (x3) RGB: 0.7 Vp-p ±3dB (Sync On Green, 0.3 Vp-p sync negative) Component: 0.7 Vp-p ±3dB (75% chrominance standard color bar signal)			
DVI-D	DVI-D (x1) TMDS single link			
HD15	D-sub 15-pin (x1) R/G/B: 0.7 Vp-p sync positive (Sync On Green, 0.3 Vp-p sync negative) Sync: Total level (polarity free, H/V separate sync) Plug & Play function: corresponds to DDC2B			
Audio	Phono jack (x2) (L, R), -5 dBu 47 kilohms or higher			
External sync	BNC (x1) 0.3 Vp-p to 4.0 Vp-p ± bipolarity ternary or negative polarity binary			
Option slot	2 slots Signal format: H: 15 kHz to 45 kHz, V: 48 Hz to 60 Hz			
Parallel remote	Modular connector 8-pin (x1) (Pin-assignable)			
Serial remote	D-sub 9-pin (RS-232C) (x1), RJ-45 modular connector (Ethernet) (x1) (10BASE-T/100BASE-TX)			
DC in	–	DC 24 V (output impedance 0.05 ohms or less)		DC 12 V (output impedance 0.05 ohms or less)
Output				
Composite	BNC (x1), Loop-through, with 75 ohms automatic termination			
Y/C	Mini DIN 4-pin (x1), Loop-through, with 75 ohms automatic termination			
RGB, Component	BNC (x3), Loop-through, with 75 ohms automatic termination			
External sync	BNC (x1), Loop-through, with 75 ohms automatic termination			
Audio monitor out	Phono jack (x2) (L, R)			
Speaker (Built-in)	1.0 W + 1.0 W (stereo)			
General				
Power requirement	AC 100 V to 240 V, 50/60 Hz, 2.3 A to 1.1 A	AC 100 V to 240 V, 50/60 Hz, 1.5 A to 0.7 A DC 24 V, 5.7 A	AC 100 V to 240 V, 50/60 Hz, 0.8 A to 0.4 A DC 24 V, 3.3 A	AC 100 V to 240 V, 50/60 Hz, 0.8 A to 0.4 A DC 12 V, 5.7 A
Power consumption	Maximum: approx. 230 W (with 2 x BKM-229X)	Maximum: approx. 130 W (with 2 x BKM-229X)	Maximum approx. 95 W (with 2 x BKM-229X)	Maximum: approx. 77 W (with 2 x BKM-229X)
Operating temperature	0°C to 35°C (32°F to 95°F) Recommended: 20°C to 30°C (68°F to 86°F)			
Operating humidity	30% to 85% (no condensation)			
Storage and transport temperature	-20°C to +60°C (-4°F to +140°F)			
Storage and transport humidity	0% to 90%			
Operating, storage, and transport pressure	700 hPa to 1060 hPa			
Dimensions (W x H x D) (with stand)	–	602.4 x 497.9 x 269.9 mm (23 3/4 x 19 5/8 x 10 3/4 inches)	518.5 x 444.1 x 269.9 mm (20 1/2 x 17 1/2 x 10 3/4 inches)	439.5 x 385.7 x 269.9 mm (17 3/8 x 15 1/4 x 10 3/4 inches) (stand is optional)
Dimensions (W x H x D) (without stand)	1027 x 616 x 130 mm (40 1/2 x 24 3/8 x 5 1/8 inches)	602.4 x 386.2 x 110.0 mm (23 3/4 x 15 1/4 x 4 3/8 inches)	518.5 x 328.7 x 104.7 mm (20 1/2 x 13 x 4 1/8 inches)	439.5 x 284.0 x 105.0 mm (17 3/8 x 11 1/4 x 4 1/4 inches)
Mass (with options)	25 kg (55 lb 2 oz) (with 2 x BKM-229X)	11.4 kg (25 lb 2 oz) (with 2 x BKM-229X)	10.5 kg (23 lb 2 oz) (with 2 x BKM-229X)	8.8 kg (19 lb 6 oz) (with SU-561 and 2 x BKM-229X)
Mass	24.5 kg (54 lb)	11.0 kg (24 lb 4 oz)	10.1 kg (22 lb 4 oz)	6.3 kg (13 lb 14 oz)
Supplied accessories	AC power cord (1), AC plug holder (1), Operating Instructions (1), CD-ROM (1), Using the CD-ROM Manual (1), Warranty book (1)			

High-grade Professional Slim Bezel (2D)

LMD-2341W

LMD-1541W

Picture Performance		
Type	a-Si TFT Active Matrix LCD	
Resolution	1920 x 1080 pixels (Full HD)	1280 x 768 pixels (WXGA)
Effective picture size (H x W) (diagonal)	509.1 x 286.4 mm (20 1/8 x 11 3/8 inches) 584.2 mm (23 inches)	334.1 x 200.5 mm (13 1/4 x 8 inches) 388.6 mm (15 3/8 inches)
Aspect	16:9	15:9
Colors	Approx. 16.7 million colors	
Viewing angle	89°/89°/89°/89° (typical) (up/down/left/right contrast>10:1)	
Input		
Composite	BNC (x1), 1.0 Vp-p ±3dB sync negative	
SDI	BNC (x2)	
HDMI	HDMI (x1)	
Audio	Stereo mini jack (x1), -5 dBu 47 kilohms or higher	
Parallel remote	Modular connector 8-pin (x1) (pin-assignable)	
Serial remote	RJ-45 modular connector (Ethernet) (x1) (10BASE-T/100BASE-TX)	
DC in	DC 24 V (output impedance 0.05 ohms or less)	DC 12 V (output impedance 0.05 ohms or less)
Output		
Composite	BNC (x1), Loop-through, with 75 ohms automatic termination	
SDI	BNC (x1), Output signal amplitude: 800 mVp-p ±10% Output impedance: 75 ohms unbalanced	
Audio monitor out	Stereo mini jack (x1)	
Speaker (built-in)	1.0 W (mono)	0.5 W (mono)
Headphones output	Stereo mini jack (x1)	
General		
Power requirements	AC 100 V to 240 V, 50/60 Hz, 0.8 A to 0.4 A, DC 24 V 2.4 A	AC 100 V to 240 V, 50/60 Hz, 0.8 A to 0.4 A, DC 12 V 3.4 A
Power consumption	Maximum approx. 70 W	Maximum approx. 50 W
Operating temperature	0°C to 35°C (32°F to 95°F), Recommended: 20°C to 30°C (68°F to 86°F)	
Operating humidity	30% to 85% (no condensation)	
Storage and transport temperature	-20°C to +60°C (-4°F to +140°F)	
Storage and transport humidity	0% to 90%	
Operating, storage and transport pressure	700 hPa to 1060 hPa	
Dimensions (W x H x D) (without stand)	549.5 x 352.5 x 100.3 mm (21 3/4 x 14 x 4 inches)	373.2 x 265.5 x 70.4 mm (14 3/4 x 10 1/2 x 2 7/8 inches)
Dimensions (W x H x D) (with optional stand SU-561)	549.5 x 467.4 x 269.9 mm (21 3/4 x 18 1/2 x 10 3/4 inches)	373.2 x 423.9 x 269.9 mm (14 3/4 x 16 3/4 x 10 3/4 inches)
Dimensions (with optional stand SU-562)	–	373.2 x 319 x 264.5 mm (14 3/4 x 12 5/8 x 10 1/2 inches)
Mass (without stand)	9.2 kg (20 lb 4.5 oz)	5.1 kg (11 lb 4.2 oz)
Mass (with optional stand SU-561)	11.3 kg (24 lb 15 oz)	7.2 kg (15 lb 14 oz)
Mass (with optional stand SU-562)	–	6.8 kg (14 lb 16 oz)
Accessories supplied	AC power cord (x1), AC plug holder (x1), Control panel cover (including 3 screws) (x1), Operating Instructions (x1), CD-ROM (x1), Using the CD-ROM Manual (x1), Warranty book (x1)	AC power cord (x1), AC plug holder (x1), Operating Instructions (x1), CD-ROM (x1), Using the CD-ROM Manual (x1), Warranty book (x1)

OLED Portable

PVM-740

Picture Performance	
Type	Organic light-emitting diode (OLED) panel
Resolution	960 x 540 pixels (QHD)
Effective picture size (H x W) (Diagonal)	164 x 92 mm (6 1/2 x 3 5/8 inches) 188 mm (7 1/2 inches)
Aspect	16:9
Colors	Approx. 16.7 million colors
Viewing angle	89°/89°/89°/89° (typical) (up/down/left/right contrast > 10:1)
Input	
Composite	BNC (x1), 1.0 Vp-p ±3dB sync negative
SDI	BNC (x1)
HDMI	HDMI (x1)
Audio	Stereo mini jack (x1), -5 dBu 47 kilohms or higher
Parallel remote	Modular connector 8-pin (x1) (pin-assignable)
Serial remote	RJ-45 modular connector (Ethernet) (x1) (10BASE-T/100BASE-TX)
DC in	DC 12 V (output impedance 0.05 ohms or less)
Output	
Composite	BNC (x1) Loop-through, with 75 ohms automatic termination
SDI	BNC (x1) output signal amplitude: 800 mVp-p ±10% output impedance: 75 ohms unbalanced
Audio monitor out	Stereo mini jack (x1)
Speaker (Built-in)	0.5 W (mono)
Headphones output	Stereo mini jack (x1)
General	
Power requirement	AC 100 V to 240 V, 50/60 Hz, 0.5 A to 0.3 A DC 12 V, 1.9 A
Power consumption	Maximum approx. 27 W
Operating temperature	0°C to 40°C (32°F to 104°F) Recommended: 20°C to 30°C (68°F to 86°F)
Operating humidity	30% to 85% (no condensation)
Storage and transport temperature	-20°C to +60°C (-4°F to +140°F)
Storage and transport humidity	0% to 90%
Operating, storage, and transport pressure	700 hPa to 1060 hPa
Dimensions (W x H x D) (with stand)	222.4 x 183.5 x 161.8 mm (8 7/8 x 7 1/4 x 6 3/8 inches) (when AC adaptor is attached)
Dimensions (W x H x D) (without stand)	222.4 x 166 x 70 mm (8 7/8 x 6 5/8 x 2 7/8 inches) (when AC adaptor is detached)
Mass	2.0 kg (4 lb 6 oz) 2.6 kg (5 lb 12 oz) (When AC adaptor is installed)
Supplied accessories	AC power cord (1), AC plug holder (1), AC power adaptor (1), Operating Instructions (1), CD-ROM (1), Using the CD-ROM Manual (1), Warranty book (1)

High-grade Professional (Portable)

LMD-940W

Picture Performance	
Type	a-Si TFT Active Matrix LCD
Resolution	800 x 480 pixels (WVGA)
Effective picture size (H x W) (Diagonal)	195 x 117 mm (7 3/4 x 4 5/8 inches) 227 mm (9 inches)
Aspect	15:9
Colors	Approx. 16.7 million colors
Viewing angle	89°/89°/89°/89° (typical) (up/down/left/right contrast > 10:1)
Input	
Composite	BNC (x1), 1.0 Vp-p ±3dB sync negative
SDI	BNC (x1)
HDMI	HDMI (x1)
Audio	Stereo mini jack (x1), -5 dBu 47 kilohms or higher
Parallel remote	Modular connector 8-pin (x1) (pin-assignable)
Serial remote	RJ-45 modular connector (Ethernet) (x1) (10BASE-T/100BASE-TX)
DC in	DC 12 V (output impedance 0.05 ohms or less)
Output	
Composite	BNC (x1) Loop-through, with 75 ohms automatic termination
SDI	BNC (x1) output signal amplitude: 800 mVp-p ±10% output impedance: 75 ohms unbalanced
Audio monitor out	Stereo mini jack (x1)
Speaker (Built-in)	0.5 W (mono)
Headphones output	Stereo mini jack (x1)
General	
Power requirement	AC 100 V to 240 V, 50/60 Hz, 0.4 A to 0.2 A DC 12 V, 1.9 A
Power consumption	Maximum approx. 24 W
Operating temperature	0°C to 40°C (32°F to 104°F) Recommended: 20°C to 30°C (68°F to 86°F)
Operating humidity	30% to 85% (no condensation)
Storage and transport temperature	-20°C to +60°C (-4°F to +140°F)
Storage and transport humidity	0% to 90%
Operating, storage, and transport pressure	700 hPa to 1060 hPa
Dimensions (W x H x D) (with stand)	222.4 x 183.5 x 161.8 mm (8 7/8 x 7 1/4 x 6 3/8 inches) (when AC adaptor is attached)
Dimensions (W x H x D) (without stand)	222.4 x 166 x 70 mm (8 7/8 x 6 5/8 x 2 7/8 inches) (when AC adaptor is detached)
Mass	2.0 kg (4 lb 6 oz) 2.6 kg (5 lb 12 oz) (When AC adaptor is installed)
Supplied accessories	AC power cord (1), AC plug holder (1), AC power adaptor (1), Operating Instructions (1), CD-ROM (1), Using the CD-ROM Manual (1), Warranty book (1)

Professional

LMD-1530W

LMD-2110W

Picture Performance		
Type	a-Si TFT Active Matrix LCD	
Resolution	1280 x 768 pixels (WXGA)	1920 x 1080 pixels (Full HD)
Effective picture size (H x W) (Diagonal)	334 x 200 mm (13 1/4 x 7 7/8 inches) 390 mm (15 3/8 inches)	477 x 268 mm (18 7/8 x 10 5/8 inches) 547 mm (21 5/8 inches)
Aspect	15:9	16:9
Colors	Approx. 16.7 million colors	
Viewing angle	89°/89°/89°/89° (typical) (up/down/left/right contrast > 10:1)	170°/160° (typical) (horizontal/vertical contrast > 10:1)
Input		
Composite	BNC (x1), 1.0 Vp-p ±3dB sync negative	
Y/C	Mini DIN 4-pin (x1) Y: 1.0 Vp-p ±3dB sync negative C: 0.286 Vp-p ±3dB (NTSC burst signal level), 0.3 Vp-p ±3dB (PAL burst signal level)	
RGB, Component	BNC (x3) RGB: 0.7 Vp-p ±3dB (Sync On Green, 0.3 Vp-p sync negative) Component: 0.7 Vp-p ±3dB (75% chrominance standard color bar signal)	
HDMI	HDMI (x1)	
Audio	Phono jack (x2), -5 dBu 47 kilohms or higher OPTION AUDIO IN: Phono jack (x1), -5 dBu 47 kilohms or higher	
External sync	BNC (x1), 0.3 to 4 Vp-p negative polarity binary	
Option in connector	D-sub 9-pin (x1), female	
Parallel remote	Modular connector 8-pin (x1) (pin-assignable)	
Output		
Composite	BNC (x1), Loop-through, with 75 ohms automatic termination	
Y/C	Mini DIN 4-pin (x1), Loop-through, with 75 ohms automatic termination	
RGB, Component	BNC (x3), Loop-through, with 75 ohms automatic termination	
External sync	BNC (x1), Loop-through, with 75 ohms automatic termination	
Audio monitor out	Phono jack (x2), Loop-through	
Speaker (Built-in)	0.5 W (mono)	
General		
Power requirement	AC 100 V to 240 V, 50/60 Hz	
Power consumption	Maximum: approx. 40 W, 0.6 A to 0.4 A	Maximum approx. 56 W, 1.0 A to 0.5 A
Operating temperature	0°C to 35°C (32°F to 95°F) Recommended: 20°C to 30°C (68°F to 86°F)	
Operating humidity	30% to 85% (no condensation)	
Storage and transport temperature	-20°C to +60°C (-4°F to +140°F)	
Storage and transport humidity	0% to 90%	
Operating, storage, and transport pressure	700 hPa to 1060 hPa	
Dimensions (W x H x D) (with stand)	372 x 336 x 264 mm (14 3/4 x 13 1/4 x 10 1/2 inches)	515 x 403 x 264 mm (20 3/8 x 15 7/8 x 10 1/2 inches)
Dimensions (W x H x D) (without stand)	372 x 288 x 100 mm (14 3/4 x 11 3/8 x 4 inches)	515 x 355 x 86mm (20 3/8 x 14 x 3 1/2 inches)
Mass	5.9 kg (13 lb)	8.6 kg (18 lb 15 oz)
Mass (without stand)	4.2 kg (9 lb 4 oz)	6.9 kg (14 lb 19 oz)
Supplied accessories	AC power cord (1), AC plug holder (1), Operating Instructions (1), CD-ROM (1), Using the CD-ROM Manual (1), Warranty book (1)	

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